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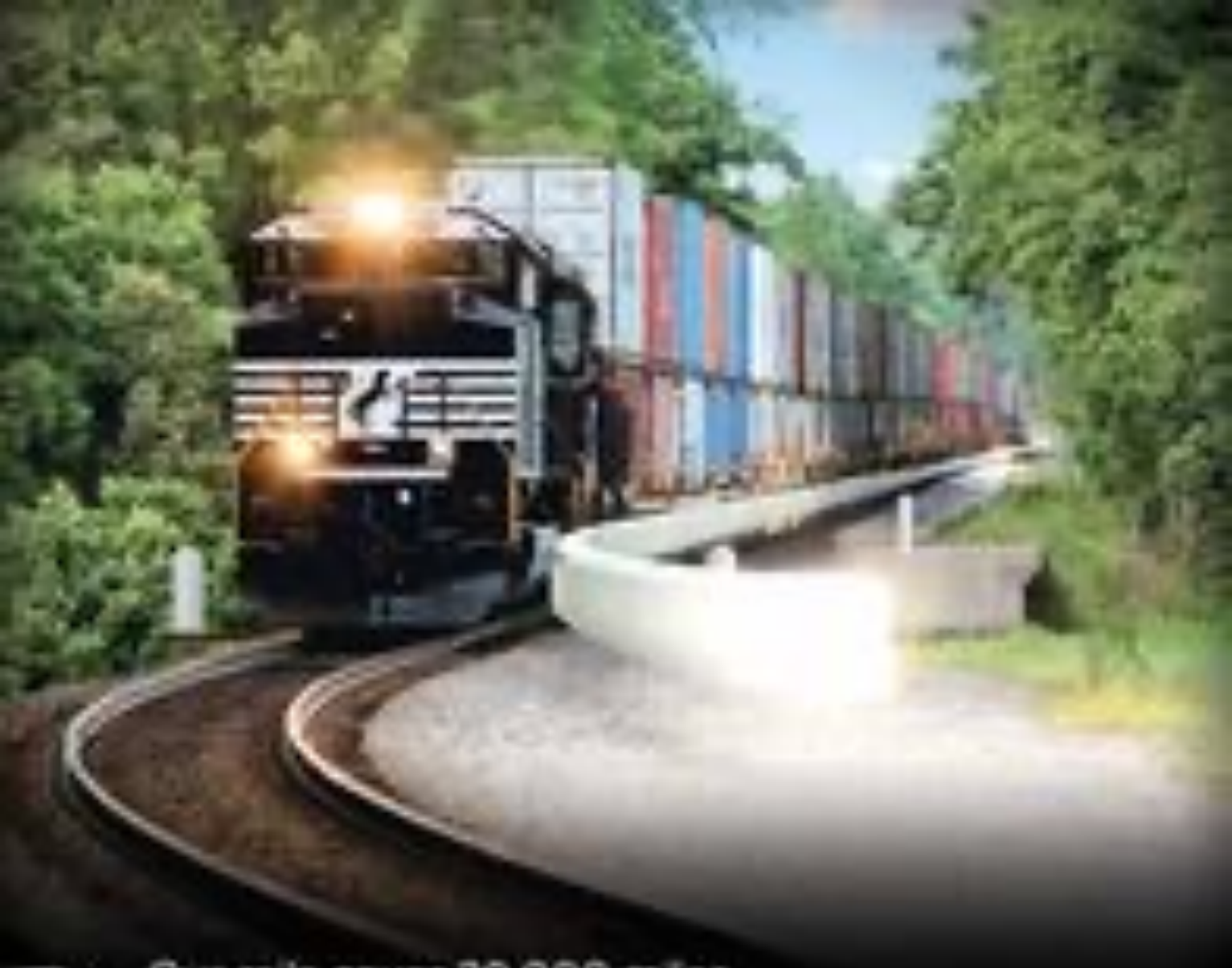

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HO ALUMINUM COAL GONDOLA Trainman LINE

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N 2-BAY OFFSET SIDE HOPPER MASTER LINE

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MARCH 2012

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CLASSIC TOY TRAINS

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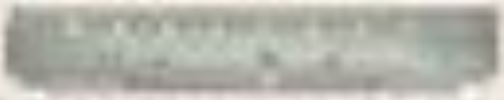
For one weathering lover, associate editor Cody Graves explains how to age a locomotive with an airbrush. Also, see how to weather trucks and make your own graffiti.

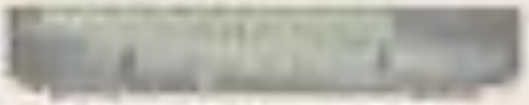
Model Railroader web extra

WALTHERS

Santa Fe El Capitan

PROTO 2000® HO Santa Fe 11-Class F7 Diesels





Now Production Samples Sales without Subscription

Toy train season

I FOUGHT THE LAYOUT AND THE LAYOUT WON

When I moved to Wisconsin many years ago, I decided to build a new, bigger model railroad layout. I had always been a fan of steam-powered trains. Starting small, with simple, oval tracks and a steam locomotive pulling a few cars, I slowly added more and more track, more trains, more buildings, more scenery. Over the years, I've had a lot of fun with my trains, and I've had a lot of frustration with them, too. Sometimes, I've had to spend hours tracking down a problem with a locomotive or a piece of track. Sometimes, I've had to rebuild a section of track because I didn't like the way it looked. Sometimes, I've had to rip out a section of track because I wanted to add a new feature to the layout.

Through it all, I've learned a lot about model railroading, about electronics, about carpentry, and about myself. I've learned that I'm a perfectionist, that I'm patient, that I'm creative, and that I'm stubborn. I've also learned that I'm not afraid to ask for help when I need it.

Now, my layout is complete. It's a beautiful, detailed representation of a small town in the 1950s. It's filled with trains, buildings, and scenery that I've built myself. It's a source of pride and joy for me, and I'm grateful for the opportunity to have built it.

YOUR EDITORIAL STAFF

DO YOU HAVE A STORY?

CLASSIC TOY TRAINS

Greater Wayne County
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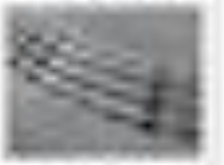
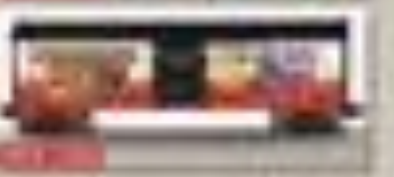


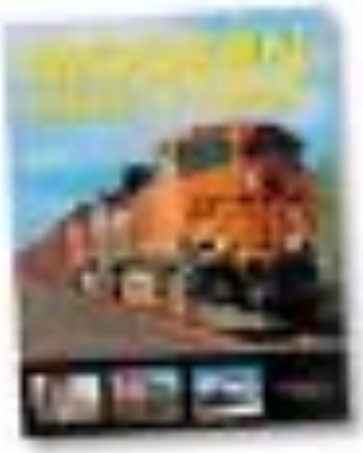
FOUR OF A KIND



NEWS

NEW MINIATURE The new O gauge Baldwin 4-6-4 from Williams by Bachmann is in stores now. The four road names in the initial production run are Chesapeake & Ohio, Santa Fe, Southern, and Union Pacific. The model, which is priced at $779.95, has a die-cast metal chassis and boiler, an operating headlight and smoke unit, and True Blue 2 smoke and bell, and operates on O-27 or wider-diameter track. See your Williams retailer or go to bachmannindustries.com to see the entire O gauge product line.

A FINE GOOD STUFF Gingerbread Bakery takes another ride on the O gauge rails courtesy of the Long Island Toy Train Locomotive Engineers (LITTLE). The summer run (Lionel car has rails marked for sugar, butter, flour, and chocolate. Orders must be received by May 1, 2015, with delivery expected in December 2015. The car costs $60, including shipping and a limited membership in the organization. Canadian and foreign orders add another $10 for shipping. Please note that LITTLE is no longer affiliated with the Railroad Museum of Long Island. Checks or money orders payable to U.S. funds should be sent to LITTLE, Box 1128, Southold, NY 11971.



A NEW LOOK AT LOCOMOTIVES Voyageur Press has released a new entry in the history of current locomotives: Modern Diesel Power by Brian Solomon is a 192-page paperback featuring more than 200 images of diesel locomotives manufactured by the Electro-Motive Division of General Motors, General Electric, and such smaller builders as Bombardier, Montreal Locomotive, and MPI. The book costs $19.99 and is available at voyageurpress.com as well as trade retailers.

VOLUME, PERIOD, AND MORE TRAINS Marshall Publishing has released cars and cars of Toy Trains, Vol. 2. The DVD features two trains and two layouts, more as a more handsome look at three historical societies, Switzerland (SA), Illinois, Wisconsin, Richmond, Twin City Model Railroad Museum, and many other venues. The DVD costs $14.95 and is available through marshallpublishing.com.

A KING OF THE HILL The Lionel no. 11404 Kitsselhawa 80-84-4-4-2 Pacific steam locomotive is in stores now. This die-cast metal O gauge model features Lionel's Legacy command and sound systems, smoke unit special effects, and a can coupler and requires O-36 or wider diameter curves. Assigned prototype number 1361, this steamer costs $499.99. See your Lionel retailer or go to lionel.com for more information.

FIVE PIECES All Aboard Supply Co. offers an Atlas O Trainman line fixture with extra load. The loaded run of garage forklift, mainliner & buffalo fixture features die-cast metal trucks and couplers, steps, bumpers, and tie-down straps. It comes in two road numbers and costs $48.95 each. Order from Aboard Supply Co. (1248) 548-3468 fax, Rochester, MI 48312, call 810-248-3108, or online at aboardsupply.com.

A JIG HELP WITH CHORES YOUR PENCIL. The track soldering jig is a wooden tool for making your track soldering projects easier. Just place the rails in the grooves and cut as needed. The 4 gauge version costs $11.95, and the all gauges version is $13.95. Shipping is $4.5. Order from Jim Lyles Toy Trains, Box 98, Zion, MI 48161.

ESSENTIALS FOR THE YEAR Subscription runs two-thousand train song DVDs of canal service information from days gone by. Both discs require a computer (Mac or PC) for operation. Lionel Postwar many-man steam set. An exclusive seven-hour DVD pages of instruction sheets and documentation. Lionel Postwar & Prewar Service Reference includes nearly 500 pages of technical and service information and is available in a tablet edition. The disc cost $74 each and can be ordered at classicgears.com.

STEELY POWER Can some ooze his friendly face of dehumidifiers, blowing up high-speed snowstorms or fast freights, their semaphores styling caught runs at every grade crossing they rolled through. Kalmbach Press has released Electro-Motive E units and F units by Brian Solomon. The 160-page hardcover book, which documents the legendary E- and F units built in LaGrange, Ill., is a good companion piece to the author's two previous books: Alco locomotives and American Locomotives. Electro-Motive E units cost $44 and is available through classicgears.com as well as your local hobby retailers.

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NEWS & PRODUCTS

>> New product announcements are posted on MyLittleProblem.com every week

HO scale Alco/GE Boxcab: $99.98/$129.98 (sound/nonsound). **New paint schemes on this Atlas model include Union Pacific & Iowa City Railway (three road numbers); Birmingham Southern; Colorado Counties & Indiana, Lake Erie, Franklin & Chester (three road numbers); Maritime Terminal & Kansas (limited edition, one number); and Union Pacific (four numbers). There are two road numbers per scheme except as noted. The Atlas-core models have a flat-side dome; second motor; with dual flywheels; separately applied details; and Accumate-engaging knuckle couplers. Direct-current models are priced at $109.98/$129.98 for limited edition). Models with Digital Command Control and sound are $269.98/$319.98 for limited edition). Atlas Model Railroad Co., 800-847-1800, atlasrr.com**

Industry news

• Glenn honored. Bill Glenn, president and chief executive officer of Lionel Holdings, Lionel Trains, is the recipient of the 2012 Hobby Manufacturers Association Award of Merit. The award was presented to Glenn for his leadership of the association's Advertising and Promotion Committee since 2008 and for overseeing the development of the exhibition's new consumer website.

HO scale locomotives

• Alco C-630 diesel locomotive. Five road names, including "The Coal Carrier," three non-numbered Conrail versions, Pennsylvania 499 in Brunswick Green Phase I colors with large herald, small keystone road numbers, as-red herald, one number, and Southern Pacific 3100, 3101, 3102 and 3103 in Daylight paint scheme

Mobile Updates

Scan the code to access Model Railroader's weekly News & Products updates from your mobile device.

• Pennsylvania RR / Hobbs Isenegger class P-70a DS Heat Reiver kit. Three car numbers available. Includes two piece injection molded plastic body, underframe, brake details, 70 ton trucks with 33" metal wheelsets, weights, and magnetic knuckle couplers. Kit #: Various. P/N: 840-1770. www.bachmann.com

• 60-foot steel wood refrigerator car. Nine road numbers. Includes Refrigerator Division Co., Buffalo Brand, Swift Refrigerator Line, and Wilson Car Lines. Prototypical side post and corrugation options, metal roofwalks, and Miner-type plate magazine knuckle couplers. #20186. Ready to run. Walthers Mainline series. Mfrs. #: Walthers Inc., 414-527-0770. www.walthers.com

HO scale structures

• Pickle salting station storage sets. Includes four covered and open vat (walls assembled brine). Laser-cut wood set. Scale cut to 1:1 so plywood and 2" split. #20-44. Aristocraft Model Railroads Inc., 314-968-9788. www.aristocraft.com

• Watson Grove Depot kit. Laser-cut wood kit with full-size die-cutting tool, part and etch, windows and trim, clear window glazing, and signs. Footprint is 4.56" x 3.1". #20-97. Wild Line, 417-319-9765. www.wildlinetrains.com

• Judy's Jeans & Jellies structure kit. Laser-cut acrylic parts with, piping, signs, and ads and die construction. Footprint is 3" x 4". #20-7. Kyle's Model Railroads, 423-468-2826, carstream.com

• Military base clinic. Laser-cut wood kit. #20-99. Micro Trains Line Co., 800-535-7734. www.micro-trains.com

• New York, New Haven & Hartford interlocking tower kit. Laser-cut wood parts with layout-ready interlocking machine, glazing, and hardware included. Footprint is 3.1" x 4". #20-97. Yesteryear Toys & Books, 847-783-9400, www.rtsmtrack.com

• Main Street USA movable structure kits. Kit would have front, interior, exterior scenes, and printed detail decals. Build the Town Scene. #20-96. Walthers Corp., 414-527-0770. www.walthers.com

HO scale details and accessories

• Rosecrest signs. Vinyl sign sheet. Sizes — Hobbies (Mail) covering, Exhibits covering, whole post and decal sign kit each in 87 pre-fab signs. Rosecrest's Hobby. www.forestvillehobby.com

• Large freight scale and access cars load. Package includes two bins. #20-98. 101 International Inc., 800-237-4175. www.internationalmodels.com

N scale locomotives

• Rock Drill railcar. Painted Pullman Green with gray roof. Coupler & label gauge. Powerless. Driving truck motor and chassis. Price to be announced.

Kato unveils Electro-Motive Division F40PH diesel locomotive. **Head-point schemes on this finely-to-Rail model include Amtrak Starlines paint scheme on the Ready to Run model include Amtrak Starlines paint scheme and Minnesota Northstar. The locomotive has factory-installed grab irons, a one pin Digital Command Control decoder plug, and Walthers scale magnetic knuckle couplers. The model has a manufacturer's suggested retail price of $199.99. Athearn Trains, 310-952-1100, www.athearn.com**

In Memoriam

John Parker, 1936-2017

John Parker, founder of the San Juan Car Co., died on October 21, 2017. A well-respected narrow gauge modeler, Parker began the manufacturing model in the early evening for Cliff Hendel, the Hamden and Ouray Line. San Juan Car Co. produces 3D scale models and extended gauge kits. The Durango, Colo.-based company also makes parts for run models. Dick Kierstead, Kennedy, and Mike Lewis. Products and updates for its most successful brought to market from San Juan Car Co. Inc. / Donated by Bill Brown

Bob Buck, 1928-2017

Bob Buck, co-founder of the Northern Railway Society, a model railroad club on October 12, 2017. Bob the club from a three-room room to a cooperative the University of Massachusetts into a two-day event held at the Eastern States Exposition in West Springfield, Mass. The club is now one of the nation's largest, attracting more than 30,000 visitors. Most recently, Bob and a group from the club have been involved in railroad preservation work in the Northeast. Bob also ran Buck's Hobbies in Warren, Mass., and was a Boston & Albany authority.

N-scale freight cars. **New freight cars from Micro-Trains include a Burlington Northern Santa Fe 50-foot narrow-gauge boxcar with track, $28.95; CP Rail Pullman-Standard 4,427-cubic-foot-capacity three-bay covered hopper, $23.75; and Maryland Maryland-depressed-center flatcar, $34.95. All of the newly-tar-run models come with Micro-Trains trucks and magnetic knuckle couplers.** Micro-Trains Line Co., 541-228-1765, micro-trains.com

Ready-to-run. Several, 800-535-1040, www.walthers.com

N-scale freight cars

• 40-foot plug-door boxcar. Two-piece wireless (shown) Hybrid-III Schlieren B-1 Bolt Patch Control Interiors and Detailed Cars. The car includes each Prototype-specific tracks and functional magnetic knuckle couplers, $12.95. Ready-to-run. Trainmaster series. Atlas Model Railroad Co., 800-321-1426, www.atlasrr.com

• Trinity five-unit spine cars. Trailer Train 77-inch tapering trailer. Easy-car-wooden-mockup. Fully-functional details, metal wheelsets, factory-assembled trailers, and trailer mounted. Micro-Trains magnetic knuckle couplers, $24.95. Ready-to-run. 38-644 Models, Inc., 714-7481, www.intrainsatable.com

• Wagon/Pacific Car & Foundry 60-foot 6000 boxcars. Two-piece injection-molded body with separate roof, underframe, and separately-applied detail parts. Separate Ajax-type brake wheels, brake rigging, and separate Ajax-type brake wheels. Ready-to-run. Trainmaster series. Atlas Model Railroad Co., 800-321-1426, www.atlasrr.com

N-scale structures

• U. S. Grit & Sons Gatling fire tire. Laser-cut wood kit. Full-cast metal parts set with die-cast components, cast iron, axles and axle, and optional open cab with simulated pistol lamp. Finished size 2 1/2" x 5" x 3". Model Builders Inc., 301-840-5380, www.bendick.com

• 100-foot Pratt Truss bridge kit with walkways. Injection-molded styrene kit. Designed for single-track through. Ballast and additional walkways. Kit #5. Central Valley Model Works, 800-248-8466, www.cvmw.com

N-scale details and accessories

• Uncoupler Switch & Signal #2 target signals. Brass uncoupling rail alternately signals red, yellow, green and warn green-light crossing devices, photo-etched ladders and hand rungs and double-track equipment versions, color-coded wires, and removable base. Kits start at $24; assembled/ready-to-run models start at $35. Bethesda Models, 609-892-1424, www.bethesda.com

• Assorted cast resin details. Tie plates, $2.98; crates, $6.98; fenderbars, $6.98; cut levers or pedals, $6.98; pipe bends, $3.98; and bolt heads for gondolas, $6.98. Off Island Trains Products, www.specialdetailingproducts.com

• 40-foot mailers. Atlantic Coast Line, Illinois Central, Milwaukee Road (two styles available), and Missouri Pacific (two styles available). Six-model assortment pack, $21.95. Trainmaster line, 800-321-1426, www.atlasrr.com

O-scale structures

• Mezzanine pit kit. Double-sided brick with detailed inside and out. Two-level floor options (for a finished ceiling), and main elevation and end color sheet included. Finished size 3 1/2" x 4 1/2", silver-gray shipping. Model Images Scale Models, 317-781-9685, www.modelimages.com

• Depression Pass sand shed. Laser-cut wood components and finish parts and sand cutting, and wood, iron and Tichy detail parts. Footprint is 3 1/4" x 7" x 4 3/4". Sidetrack Laser, 651-645-2454, www.sidetracklaser.com

O-scale details and accessories

• Wheelset scrapers. Drilled brass parts with etched outlining, overall tread tightening, and notch for opening. Shown on prototype by Milwaukee. Set, $3.40 per brass variety and five rings. Crane Cabin Models, granddaughtermodels.com

Flatcar conversion kit. Converts Bachmann HO 1:87 flatcar into an open coal car. Includes cast gray hopper/end decks, brass and hammered parts for ends and overall. Low-friction wheel and gear set. $12.95. Shipping fee. 800-211-0296, www.showbiz.com

S scale freight cars

Baltimore & Ohio class I-11 caboose kits. Narrow platform version with coach-style steps; wide platform version with vertical steps or coach caboose without cupola. Kits include more than 100 plastic etched, laser-cut and cast-resin parts. Trucks, couplers, brake parts, and decals not included; ordered, designed and manufactured by Cyber Area Enterprises Ltd. Delivered to The Depot in Car Ltd., www.thedepotforever.com

Z scale freight cars

Chicago & North Western bay-window caboose. With glazed vinyl windows. Steel 4-skid Andrews Longfellow trucks. Two-car assortment available. Now ready to ship. Ambroid Corporation, 508-580-1700, www.ambroid.com

40' Fruit growers steamheat refrigerator car. Pacific Fruit Express (1941 paint) Pacific Fruit Express (1947 paint) Southern Pacific (1949 paint) Western Fruit Express (1950 paint) Santa Fe (1953 paint) Milwaukee Refrigerator Transit Co. (1956 paint) Chicago Milwaukee Refrigerator Transit Co. (1958 paint) Chicago Milwaukee St. Paul & Pacific (1960 paint) Milwaukee Road (1964 paint) Burlington Northern (1970 paint) Burlington Northern Santa Fe (1995 paint) Union Pacific (1996 paint) Union Pacific Railroad (2000 paint) Union Pacific (2004 paint) Union Pacific (2005 paint) Union Pacific (2006 paint) Union Pacific (2007 paint) Union Pacific (2008 paint) Union Pacific (2009 paint) Union Pacific (2010 paint) Union Pacific (2011 paint) Union Pacific (2012 paint) Union Pacific (2013 paint) Union Pacific

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Zimo MX645 series Digital Customized Control decoder. MX645 (1) series, N/O 4-MF, right pin plug MX645R, six pin plug and MX645P6, no pin PluX interface mode connection equipped on circuit board, for twelve outputs. 4 amp motor or total current. Flexible sound recovery, and 1 mph sound output. Prices to be announced. Produced by Zimo, distributed by Model Railroad Electronics (MRE) 707-1971, www.zimoelectronics.com.

Decals

Milwaukee Road 40-foot ribbed side boxcars. Multicolor paint scheme, includes two 40-foot flat-type ventilators. Each set will letter two cars for 1 car manufacturers and is available under Cars Store.

Books

Modeling the Buffalo Creek & Gauley Railroad. By S. Hinds Hicks, includes prototype history, information on the author's 4-scale model railroad, maps, and plans. More than 170 photos and diagrams. Softcover, 144 pages, $29.95 plus $4 shipping. Fifty Nine Enterprises, fiftyninepress@gmail.com.

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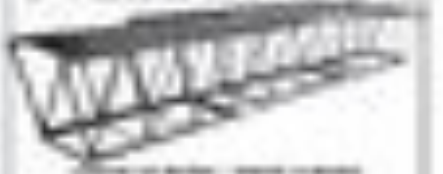

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• "Steam Across Kansas – Sea-and-Rail" 2012 calendar Offered by the Kansas Central Model Railroad and Railroaders Club, 913 Cedar Vista Lane, Lawrence, KS 66049; Email to: Dan.Kinnee@cox.net.

• Virginian & Ohio 50-foot plug-door boxcar kit. Custom-decorated. Accurate car offered by National Model Railroad Association Mid-Central Region, Division 7. Four car numbers. Single car, $42; four-car set, $95. Shipping $5.50 for one car, $8 for two to four. Ohio residents add 6.5 percent tax on the total including shipping charge. Division 7 MRR, 9108 S. 91st Ave #2000, Cincinnati, OH 45231.

• HO scale Pittsburgh & Lake Erie 50-foot boxcar Accurate kit custom-decorated for the Pittsburgh & Lake Erie Railroad Historical Society. Three car numbers. Single car, $49.95; three-pack, $52.95. $5 shipping per order or $8 per two or more cars. Ohio and Pennsylvania residents add 6 percent sales tax. Allegheny County residents add 7 percent sales tax. Bob A. Yarbrough, 4 Campbell Ct., Greensboro, NC 27407-2399; www.pandbrr.org.

• Pennsylvania RR Dandelion – Bessemer and Work Equipment, 1949 to 1968 By Al Pecher and Debra Harwood. Covers PRR cars C-A through C-H and work service cars. 176 pages with more than 240 photos, black-and-white and color. $34 plus $6.99 shipping. Pennsylvania residents add 6 percent sales tax. Explorer Publishing Co., PO. Box 108, Kalamazoo, MI 49004; www.prrinfo.com.

• Providence Northern HO scale 100-ton triple hopper Boxcar kit custom-decorated for the Providence Northern Model Railroad Club Inc. Four car numbers. $34 for the first car, $30 each additional car. $5.50 shipping for two cars. Rhode Island residents add 7 percent sales tax. Providence NRR Club, 275 W. Shore Rd., Warwick, RI 02889; www.providencenorthern.org.

• Pennsylvania RR K29 boxcar Custom-decorated Red Caboose HO scale model. Six car numbers, $34.95 plus shipping. Three residents add 6.25 percent sales tax. Texas Western Model Railroad Club, P.O. Box 1101, Euless, TX 76040; www.twmrr.org.

• 2012 collector's calendar Features 14 historic railroad photos from Indiana, Ohio and Michigan. $10 plus $2.50 shipping. Three Rivers Railroad Heritage Council Inc., Riverfront Railway Museum, P.O. Box 11808, Fort Wayne, IN 46858-1808.

• Western Maryland Ry. Historical Society 2012 calendar $12 plus $3 postage and handling within the United States and Canada. Maryland residents must add 6.0% sales tax each. Order from Carl C. Hutchinson, 3600 Rose Rd., Westminster, MD 21157-4329.

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The four-axle era: Is it over?

Two decades ago, the GP40 ended locos for heavier trains. Here's why six-axle power finds favor.

Near Santa Fe's four-axle GP60M No. 101 rolls the lead of an intermodal train at San Bernardino, Calif., in 1998. Jason Shafer

The four-axle high performance

Until relatively recently the locomotive builds' "tried and true" four-axle unit was the standard. The appearance of the six-axle diesel originally a "special duty" unit designed for extreme hill or lightly railed branch lines.

"With improvements in locomotive controls and reliability and hence the six-axle unit's ability to be a build-up to 'large' duty," Frederick Gurley, a former EMD product manager, explains. "The four-axle design has just come close to it."

There are several reasons for this, but it's important to a railroad's bottom line. Locomotives are expensive to power and maintain (LC) locos, and those take up space and require crewing. There's never been the World who a six-axle frame than a four-axle frame.

Additionally, the market is awash with used two-motor four-axle D/C, used engines. A few existing units are being rebuilt, upgraded, and receiving improved efficiency controls. But as a rule, due to ever-growing A.C. technology, "the expense is unjustifiable for most lighter-duty duties."

Even as older locomotives embrace the technological advances available today, not-with-standing still the threat of obsolescence.

The most machine-able to earn a more. Life of horsepower doesn't help, and another industry predicament, an old design the grip of the wheel-rail interface, how to restore passing work locos can provide 60,000 pounds of traction when wheels slipping. No matter how much horsepower a four-axle unit has, 60,000 pounds is the maximum pulling power available. At 7 mph, the speed at which most coal trains are governed, five-axle locomotives would usually cause the wheels to lose grip with the rails and spin. However, a similar six-axle locomotive gives 110,000 pounds, and again doesn't see full horsepower.

"North America's maximum train tons have become so heavy (one-and-a-half-mile-long coal trains, 15 a mile, eight axles) and 10,000 or more, it would work these trains to get rolling. You can go one to have two four-axles short out of work only."

Number has led to the six-axles design of the six-axle unit receiving "radial" trucks. This design enables them and trucks to the through curves.

To an axle A.C. locomotive with radial trucks is available," Linda says. "The more locomotive power that's can be hard on track in the short radius C. trucks. It implements a better economical solution for shorter every heavy duty railroad applications."

Jack Wheeldon, a retired EMD senior factory supervisor, whose section's work involved some of the Burlington Northern and later BNSF series.

"With EMD's 60 locos, the company successfully marketed both the GP38 and SD40 like which the SD70MAC was later. Brand-rolling on radial trucks, it became a whole different ball game.

"In GP40 was trying a lot a concept of the price of an SD40, as when the builders came up with a profitable radial truck, the railroads realized they didn't need to pay

four-axle locomotives. You get a bigger bang for the buck with a six-axle unit with radials, and you can go about within a no diesel six-axle couldn't go.

"Just that and the dramatic increase in locomotive wheel slip with the continued advancement of rail adhesion control has more and more got an unbeatable combination. That has come much the dash knob on the 'small-picture' best-sale locomotive."

Wheeldon adds EMD's 64 units up with a B-B radial truck, which it rolled out in the series. Was the performance response down that direction, as the colorful Rebel

"Many railroads that were historically stable in their six-axle locomotive because of the tightness of the curves in their right-of-way were misled by us," he says, "and that" the new the Alaska Railroad, where terminal a state radial trucks out the only six-axle power to an industrial that one that is not a locomotive.

That doesn't mean there will never be diesel four-axle road locomotive power in railroad's railroading.

"There are a lot of four-axle units from the '80s and '70s still out running — heavy," Linda notes. "There are fifteen and more three-axle units from locomotive shortly those original owners (or railroads) and the EMD have been replaced more in regionals and short lines as the 1 have to be less than locomotives."

Paint by the numbers: What does it cost?

Labor costs dominate a paint shop's invoice for in-service. Expect to spend $11,000 and up.

Painting a locomotive is as much a financial decision as an aesthetic one. Owners must balance a whole paint scheme makeover's considerable expenses, but paintings are a common cure-all, and the result is always on the highest bidder.

[illegible] railroad will want to consider costs when the railroads situations, simply because it can apply the same base design to thousands of units. But how much does it cost another operation to paint a batch of newly acquired units or repaint the rest of the fleet?

"What the exact answer will always vary, but it's a good example.

Two years ago, Kurt Wilson, a contractor railroad management consulting and locomotive components firm who worked to customers, hosted its second Paint Institute paint class in Philadelphia, Pennsylvania, agency. Agenus Metropolitan in Crestport. As part of the class, Kurt Wilson took the locomotives to the Chalky Valley, Kings of exhibition (repainted). Wilson & Wilkins has overhauls and paint.

"As part of the contract, NORT required us to paint three locomotives in a new day," says Tom Zaloudy, Kurt Wilson's vice president and general. "We'd an agreed-upon paint that doesn't require clear coat, so we didn't do that, so we painted [illegible] and wrapped, however."

Here's how the numbers broke down for preparation, paint, and labor per unit:

- $7,000 if Agenus is involved. Of course, to prep, paint, and finish the units, at $60 per hour. That's 70 hours to labor.
- Seven gallons of primer and activator at $90 per gallon. Total: $630.
- Seven gallons of silver and activator at $90 per gallon. Total: $630.
- Ten gallons of black and activator at $90 per gallon. Total: $900.

- Other stripes, decals, and some [illegible] paint recipes, including three gal tons at $90 per gallon. Total: $270.

Adding this, assuming the $60 per hour labor rate, the painting costs come to $11,170 per unit.

"These numbers are for a small batch of units," Zaloudy says. "In a perfect world of many productions, the labor costs would be reduced to around $90 hours."

Florida East Coast goes retro

Florida East Coast Railway [illegible] No. 114 is [illegible] in the railroad's first-ever [illegible]. Delivered in 1978 for the [illegible], EX-[illegible] Flagler, the railroad painted off the [illegible] for its Christmas Train Gen. 10, on Dec. 17. It led [illegible] from [illegible] to St. Augustine, Fla. [illegible], on the second "Heritage" unit in FEC. The railroad painted GP40 No. 800 to "FEC 2020" for the [illegible] and started it out in a variation of the red and yellow scheme with the motto famed "hurricane" logo on its flank.

CP to overhaul fleet with TIDECO units

Canadian Pacific plans to receive about 100 ONE-hour and six new TIDECO rebuilds over the next eight years. The units are to be rebuilt at Progress Rail Services Electric, Ltd., and Mayfield, Ky., shops from CP locomotive series models include GP9s and SD40-2s. The units will get new cabs and modified controllers, including improved crash-safe technology. Plans call for the first deliveries late this year.

Norfolk Southern Railway in December began testing Caterpillar-engined PRIDE's one of thousands, its 360 units 4002 and 4003 pulled test trains. The railroad tells Trains it was testing the locomotives' low-speed tractive effort, including the diesels' unique single-axle wheelslip control system.

STILL ELECTRIFYING!

In 1926, General Electric delivered 12 locomotives using its Ignitron (mercury arc) rectifier technology to the Virginian Railroad. Through railroad mergers and sales, the same 12 locomotives were repainted in several different roadnames, with some staying in service until the early 1980s. Visit your favorite hobby dealer to see why this striking EF-4 continues to spark the interest of O modelers!

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Lionel heavyweight passenger cars from the late 1970s were designed with ease of manufacture and low complexity of maintenance in mind.

Lionel modern-era heavyweight blues

REMOVING THE SHELL ISN'T EASY

I'm having trouble replacing a light bulb in my Lionel no. 6448 Blue Comet heavyweight passenger car. Please don't say remove the screws, and it can't figure out how to get it open. I also can't see any pivots tabs. Can you offer some suggestions on how to get this car open? — John Hutchins, Middleburg, Pa.

A This question is a variant "I broke my toy" issue. As NMC circa the 1970s and early '80s "free help" guru, a pet cliché of ours.

The no. 6448 heavyweight passenger cars were probably designed for ease of production, rather than routine maintenance, and to go sometimes almost remaining dust-bunny-proof. Lionel's a mess.

The cars were fabricated in two parts: the body consisting of the lower sides, roof ends and the roof sections, which also provided the truss, to-rest "glass" behind the molded sign. If our cabinet cars were cracked over the window moldings on their other, the roof sections, and repainted over the body, the side-board there was little trick of the window openings to lock the roof and body together.

Pete Lucas there has broken two sides on each car. The Lionel Service Manual suggests removing a thin metal

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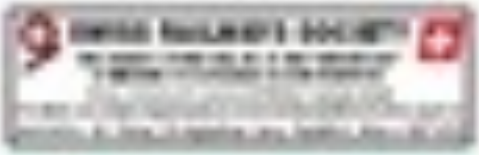

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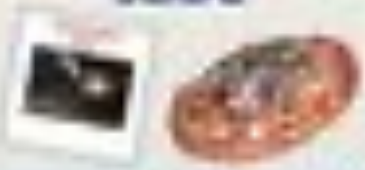

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New Portageville Bridge Is Key to Southern Tier Rebirth

[illegible] shows how the new Portsmouth and Lord bridge will appear. As seen from a point west of the Piscataqua River, the [illegible] will be [illegible] high as it curves across the channel to the Kittery shore. The [illegible] will be [illegible] high and will have a vertical clearance of [illegible] feet.

weight, were canceled by engineers on the bridges. The use of drywall over the reinforced box girder is a heritage replacement.

The box girder is a set of beams on the Southern Part of the new Bridge, replicating bridges in [illegible]. In standards, weight-bearing the remaining bridge truck-carrying between Memorial and Bridgewater and adding a [illegible] Draft to Control and making improvements to the Bridgewater bridge as well as participating in [illegible] capacity improvements with the Massachusetts and [illegible] will be able to construct an Arbor Way Improvement with the Massachusetts Route 1 Draft to Control, adding a [illegible] design, and

Iowa Northern Restores Service on Ex-Union Pacific Branch

ON NOVEMBER 9, 2012, THE IOWA NORTHERN TRAIN to serve the newly restored Ogden line rolled into Ames behind two locomotives. Chairman & Business manager Jack Holt of Ames, Iowa, pushing an engine which had moved only once for demonstration purposes. Ogden Mayor Doug Lee and Boone County Supervisor Bill Zinnel were guests of honor and shared the cab with engineer Jim Hall and conductor Jeff Hall. Ogden Mayor Doug Lee and Boone County Supervisor Bill Zinnel were guests of honor and shared the cab with engineer Jim Hall and conductor Jeff Hall.

An Art Z surface unit are being operated by IAIR under a temporary lease and rent agreement. IAIR had planned to abandon the line despite efforts of local public officials who wanted to see rail service retained. The track was in poor condition and needed repairs. IAIR received the Federal Railroad Administration's approval to operate over the line on January 1, 2012. The Union Pacific Railroad donated the line to the city of Ogden, Iowa in 1996 and made an agreement with the Boone County Railroad Authority to operate over the line. The Boone County Railroad Authority is a public agency that owns railroad property in Boone County, Iowa. The Boone County Railroad Authority is a public agency that owns railroad property in Boone County, Iowa.

It's Santa Train Season

THE HOLIDAY SEASON is in full swing for the Santa Train at the Iowa Northern Railroad. The Santa Train is a popular event for children and families in the area. The Santa Train is a popular event for children and families in the area. The Santa Train is a popular event for children and families in the area.

Alaska Railroad

NEW ARRIVALS DELIVERED EARLY: The Alaska Railroad has received a 70-acre tract of land from the Alaska Railroad Corporation. The land is located in the Alaska Railroad Corporation's Alaska Railroad Corporation's Alaska Railroad Corporation's

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Lehigh Railway Expands Narrow Angulers (IRD's)

What a group of near-50-foot gondolas arrived, the Detroit, Toledo & Ironton 999 retired and recycled this drop-end 40-foot gondola to load freight car trucks for the scrap train. This car kept its original paint, but was partially renumbered by deleting the second digit (now 7104) and adding a DR prefix to make it no. 80744.

Recycled equipment keeps supplies handy and secure

As railroads trimmed their steel wheel freight cars out any favorite railroads that don't have the annual paint and lettering. Most have no unusual colors on their outsides and couldn't be bought with either RR or MOW. Can you explain what these cars are used for?
Mike Cox, Clarkston

Railroad revenue freight cars have long been hauling construction materials and parts for company purposes when not hauling freight. In most cases, they are common to do jobs similar to what they did in revenue service. The big difference is there's no hurry to unload the car so it can be used as a rolling warehouse until the materials are needed.

Railroads often repaint the company colors so they don't get mixed up with revenue cars. A standard coat of red, brown, black or rust, black, gray, green, or yellow is common. Often cars are lettered in a contrasting color using a number that's prefixed with MW, S, MI, or DR to indicate the company's use. These modified numbers help users to spot cars that are listed in the employee time cards, which must be tracked on the one of the most causality due to their age.

To celebrate, company-owned cars that are assigned to a regular work train crew also get a standard label over the doors to help the workers locate the tools or specific materials that need.

All sorts of retired cars may be converted into company service. Boxcars are among the most common, as they offer protection from the elements and the doors can be secured with a padlock to prevent theft. Cars in especially good to store and transport tools, small spare parts, barrels of grease, paint bars, nuts and bolts, and similar items.

Insulated boxcars, refrigerator cars, and passenger cars are popular for use remain and camp cars because they're easy to heat in cold. Windows are commonly cut into the sides of old freight cars during conversions to admit light and heat. Retired passenger cars like diners or sleepers may be used as is, or also can also be stripped and re-outfitted with a different layout that's more for their special purposes.

Flatcars (open) work well for transporting bulky, odd-sized, and irregular loads, and portable ramps so the machinery can be driven on and off as needed. Other flat cars may be adapted with fold-up cabin for carry-out/in-storing overtimes like bulldozers to a nearby work site.

Gondolas, like the one shown above, are the most workhorses of the railroad because no-frills cars have one-piece sturdiness that's useful for the weather. Typical maintenance supplies that go into bridge timbers, gas cylinders, large rigging components, fuel pipes, prefabricated signal shanties, switch machines, rails, ties, and almost anything else that can be handled with a small crane. Older gondolas are also used to haul cut plants, tracks, scrap material, and many varieties of specialized "scrap track." Ballasted drop-end cars are popular for running track machines.

Retired cars happens are never often modified to have a cabin, door, and lift materials for use in repairing railroad tracks and equipment.

Rather happens have special freight-sized door mechanisms that control the flow of crushed rock or a depositor along the middle of the track on either of the rails. They're rubber-tired for easy moving also, so hallowing and refueling track is a regular maintenance activity. Some of the more recent hallast cars are made from converted ore cars and 70-ton hopper covered hoppers.

Many side-dump cars, covered hoppers, and others converted with rock chutes to load dry sand from a supplier to the rail road's regular terminals. The new metal pipes allow the car to be connected over the locomotive small platform where to any pressure can be used to blow the dry sand up into multiple bins.

Tank cars haul either fuel or water to supply the work crews and to maintain a various locations. Most MOW tank cars are assigned to specific jobs and are often identified with a color-coded stripe around the ends of the car ends. Paint are also stenciled on the upper side near the doors or just above the coupling levers to indicate what stuff car can carry. Some common work car jobs include crew cars, conductor, clerks, or mechanics on the tools for detailing.

With the decline of railroads in the 1980s, some railroads found there almost cars were well-maintained was a variety of using cars and cars stations. Most small railroads already had truckload cylinders, pallets, ramps, small refrigerators and other accessories, so it was easy to remodel them with additional tanks and bolsters for use as mobile job sites.

Ready for action. Fleets of company service cars are reasonably useful! All ranging equipment and materials or locomotive wheels or problems even no-cost. So the work agreements. Railroads that follow a strict hand-over-stage inventories of large rail

This 2,000-cubic-foot covered hopper looks like it was initially painted with a light gray latex coating. Conrail's car paint certainly didn't adhere very well.

Extreme weathering reveals original owner

This former Pennsylvania 44-ton switcher began working on the Norfolk Southern Horseshoe Pennsylvania Division's Altoona (Pa.) Yard in 1944. It received paint overhauls a few times during its career. The car was originally a PRR class B50 covered hopper built by Pullman-Standard in 1946. But it's now owned by Trinity Rail in Dallas (TRIX 3).

The dirt was. If the layer of brown and black paint had deteriorated from chemicals spilled on the roof and from rainwater since the 1980s, or if someone took the time to carefully scrape the 3-mm paint and lettering off the Trinity reflective American finish.

In one case, it seemed like a real-life accident was resulted in stopped the orange herald of the former Valley Rail railroad! — Jason Hatcher, Arvada, Ky.

Send your questions about prototype railroading to Information Desk, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail mrinfo@trains.com. We regret we can't answer all the questions we receive.

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The 'gotcha'-free zone

[illegible]

A New Jersey Transit train zips northward from Atlantic City to New York's Penn Station on Jan. 23, 2012. If the near-miss is on, they could report the close call and be part of a bigger program to improve safety, rather than be punished. [illegible]

Near misses are a [illegible].

That is, if an engineer forgets a signal is restricted and proceeds at normal speed, it [illegible].

In the old days on New Jersey Transit, if no one else saw the speeding incident that engineer would keep quiet and avoid the mandatory suspension of up to 30 days.

Now, with the Federal Railroad Administration's celebrated Close Call Reporting system, the engineer can report his mistake and transit can [illegible] to see what happened.

"One we can look at meaningfully now is preventable. And from happening again. We don't call it 'the gotcha' or who people are at fault or to hit people. It's to enable it to [illegible] a safer environment," says Kevin O'Connor, [illegible] president and general manager of operations for NJ Transit.

NJ's participation [illegible] in all beginning program has to move to the February 1999 collision at [illegible], Maryland that [illegible] more and [illegible] [illegible] three spring, 350. That crash killed 11 people. A National Transportation Safety Board report that followed cited "several close calls preceding the crash," according to the U.S. Department of Transportation website.

The FRA concluded that reporting those close calls at most railroads was the [illegible] way the railroads to avoid reporting behaviors that penalizes often without management awareness or timely FRA or outside administrators for railroad safety and what safety officials say is the FRA [illegible] that the program is now a "carrot stick" or its Risk Reduction Program.

The New Jersey commuter railroad has been part of the [illegible] reporting program since November 2009. At that time, [illegible] was a deputy general manager for operations and a big supporter of the program, reporting.

"I think of a [illegible] a compliance and the railroad. Railroaders are [illegible] more terrified with railroad terms, remember whatever you want to call them, [illegible] ones. Most [illegible] would otherwise [illegible] as unreported and without consequence for the railroader or the public.

"The locomotive [illegible] the locomotive, [illegible] we might not get to [illegible]," he says.

NJ Transit's engineers can report any [illegible] they witness in a central [illegible] that an [illegible] with information [illegible] Transit's Newark, [illegible], says a [illegible] Pacific's and operations at [illegible] and [illegible] [illegible] at railroad [illegible] on the East and West coast. [illegible] Rail [illegible] in the U.S. [illegible] the [illegible] of [illegible] [illegible] just [illegible] [illegible] [illegible].

[illegible] the days of train numbers, [illegible] and [illegible] that [illegible] [illegible] [illegible]

railroad management's own hands out.

"We estimate [...] if Metro-North [...] concerns, I would go to the FTA and general manager the same obvious questions: Were managers aware and did some act on the same info?" Boldy says.

Now, with new years of data and more coming in, FRA officials are starting to act more closely in on the issue.

"For the three carriers that have been operating like it [new] will [progress for a year or more], the form at all the top 10 worst topics are identical among the carriers," FRA spokesperson Kirk Boldy says. "In some cases, the underlying causes for why these carriers occur are common across the three carriers. In other cases, operational differences appear to influence the different errors contributing to train call events."

Boldy adds that the FRA's focus not have to rely on automated railroad data to see specific locations. And while accurate have offered just enough information to start analyzing patterns of accidents so they can be minimized proactively.

"Following accepted data combinations to pinpoint [...] [new] could [not capture] one variable [where] there were enough [automatic] [warning] in the system to make [it] [clear] [...] [accidents] [the] [information] [source]," Boldy says.

While not all reports contain [...] [...] Boldy or NY Transit says, a train was involved, approved [the] [...] [report] [...] [the] [...] [...] [...

John Kelly

Better track, wheels, and couplers

N scale equipment has steadily improved in quality over what is a scale cliff for higher cost, inconvenience, aggravation, or some other factor. At left are a pair of early cars, with thick details and primitive couplers. The models cars on the right have such improvements as working knuckle couplers, wire and etched metal details, and low-profile metal wheelsets. Bill Schneider photo

Everyone wants easy. After introducing an excellent 50-ft scale track, and even a great track plan for train rooms in the N scale environment, Rapidonut at the track was the wheels that came standard with electric trains and managed against the track's smallest gaps inside on the cars rolled along. The solution was to replace the wheels or grind down the flanges a bit, (Two seven-inch bits, but I've read that it's easily accomplished by passing the wheels across a piece of fine sandpaper at an angle so that the wheels are narrowing but with enough resistance to reduce the flange depth simultaneously.)

The shortest distance between two points is a straight line, but I'll never use straight track if I can help it. Curves are more interesting, and more realistic. Broadly speaking, the tighter the curve, the more interesting it is. Broadly speaking, the tighter the curve, the more interesting it is. Broadly speaking, the tighter the curve, the more interesting it is.

I can't draw progress, and this is just one example of N scale shortcomings we've seen over the scale's years. In many ways, each of these improvements has come at a price. In many cases we had to spend a few dollars and some time.

Take the Rapido coupler, shown. When N scale first appeared, Rapido encouraged by Carl Arendson, allowed other manufacturers to use its coupler design so it could be the prototype that [N] had to be forgotten years, when cars were fitted with coupler swaps in the manufacturer, or on couplers at all. Starting it to the excellent to choose and control these specimens.

Our Rapido coupler took can allow tags or worked at building trains together. Instructions or worked one with. It was out on a mass left year, the others would probably go out. The biggest problem, though, was that the Rapido was inexpensive large and looked nothing like a cool railroad coupler.

Then, in the late 1990s, Kadee introduced an N scale version of its popular #5 coupling knuckle coupler. Most of us received a concern that the cost was huge, one we would be thrilled, and so time and frustrated we are. The couplers were easy to use, unassembled and track mounted couplers were still on the horizon. Unlike Kadee did lead to issues to a flashy wheel pin rotor and tags were all ahead.

So the years went. Kadee split into two companies, Kadee and Micro Trains, and now, of course, we have our cars with coupler-equipped #5 knuckle or a cool plastic knuckle coupler version to place. And #1014 and #17 have gone further, introducing cars with body-mounted couplers, a mixed bunch with common feature: cars operate better, particularly when tracking, and look more realistic.

And on it has gone with other level operations. Early detail by common models had a not-removed couplers and so had a gaping hole in the plastic to accommodate coupler's lamp. Kadee came in the end on again with cars that filled that hole and accepted a body-mount coupler.

The improved car models looks a good deal, but again there was a price. These converted engines weren't cut out for operating on the track we used (I'd various known) no lots of issues. Still, body-mounted couplers best because the were no N scale details, and I don't think any of that would considered also a room to go back to less things now.

The list of improvements that came at a price goes on. Early decent but found cars that looked like more paper. Models no material have shown to work, and mechanisms stripped with brass and rigs, which looked better but were never simple. That problem has been solved with higher quality engineering plastics, but unfortunately, they don't hold more than an power well. That problem is usually avoided by hooking the locomotive to the correct video to begin with, rather than back-back.

More and more of us want to run our trains with Digital Command Control, and the improvements we've seen here are amazing, as are all the other bells and whistles decoders also accompanies sound, DCC (about our 1 I know even a lot of smoothing couplers.)

I have no idea what it was. But the guy who figured out one could replace the light board in a GM engine with a no plug-sound board that included a decoder function a special place in the hall of N Scale Heroes. Here we can install a decoder in just a few minutes, assuming no detail but the electronics into the secure chassis or there, as well as a surprisingly good sound source.

Oh, and how about those molded brass locomotives and platforms that come with so many of today's gorgeous freight cars? I've done my share of grumbling when new developments came along that were going to cost me more and more, but gone the chance I'd take progress. Here's to those new developments that will make me include more trains!

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BY BOB JOHNSTON

Shuffling cars to add customers

Here's how Amtrak adds seats (and revenue) by rotating extra equipment to meet ridership demands

Virtual extra Amfleet coaches and Amtrak's on-board Northeast "virtual theater" allowed load up for Dr. Louis Gossett Concorde Service train 501, seen along I-95 near Dwight, Ill., the day after Thanksgiving. The extra added seats and helped draw riders. Train Operations Manager Chris McKiernan (upper left) monitors Midwest corridor schedule; yellow shading signifies an real-time traveler appears when trains have less than 90 remaining seats. Bruce Van Sant (below) picks the next coach from the operations center

RIDERSHIP AND REVENUE for each year Thanksgiving week 2011 – running 13,000 passengers up 3.4 percent from the same period in 2010. That comes on top of an all-time high 30.2 million ridership ratio for the fiscal year ending June 30, 2011. Amtrak's new chiefs were pleased to report, and handling Amtrak's ridership success has become a conundrum. It's almost too productive.

But like all day-to-day operations, short-haul happens. There are the problems of maintaining a plant operated for countless of a route. At intervals, there plays some three-dimensional management, conductors, and operations personnel, who work together on a game plan that controls demand for every train on every day of the year, keeps the fleet in a state of good repair, and makes sure there are enough seats ready when and where passengers want to go. It all starts with the sales division and engages all the components of consolidated National Operations Center in Wilmington, Del., under Bruce Van Sant, director of revenue optimization.

"Our mission is multifaceted and challenging. We play the sales function, monitor load, and try the customer to handle reservations from client-oriented calls right from the concept and design of the route on 2009, about whether booking engagement, cancellations often. Once the train has months, additional coaches have given us a small measure of volume," Van Sant says, adding a visit with that last August, "which we have yet to see around the season, demonstrating a series of add-on seats that became part of the weekly operating plan."

Take Trains Monument Northeast Regional 148 and 148 from Washington to Springfield, Mass. "A bus could a couple of two short forecasted dollars a over the movement minutes on as to add a sixth car to that consist, thus maximizing a lift ratio," Van Sant says. It's to make that happen. We are always experimental, but as figure out a way to maximize trains and size Springfield's two electrical space overnight. To make the additional equipment going run on 134 preferred scheduling at Washington, a pool crews added an extra car to a set via Philadelphia. The train ran over Springfield and bonds as it and being "by, as every 148. Also crowded Amtrak as Regional 174 to 194 to 195 and 196 that."

Other trains regularly making the "split list" of still runs had those the Pinker Newsight Saturday runaways at Empire Service train 283, Nov. 2012 a.m. New York depart train for Niagara Falls. "Now is over at New Haven, Wednesday Saturday 2012 cars coach on Saturday Acela Friday and wing) 134 from Washington," Van Van says. "While pass was on Richmond Boston Regional), 174 today work have the cover capacity can't run in the start on the weekday because day on work and summer service drop for labors are a crowd."

Thanksgiving week to one layer of cars places. For example, when the Pittsburgh Steel Bowl Championship had to have the northwest Keystone with the Steelers weekday change, Amtrak add Harrisburg New York Keystone for cars #71 to the Pittsburgh main Sunday line. "It took a long ways to fill to on that holiday Sunday, but two seconds Adam one later hundred run here Lines load to 450 trains a capacity of 500. That half was

Lunchtime. The Amtrak train 197 heading through Hamilton, N.J., on Dec. 10 2015. To most Amtrak crews it's a short run.

The 'Lake Shore's' winter vacation

The trains Florida-run morning the Miami-New York Silver Star up to crosses to St. Lucie Canal at Kebadeen, Fla., will soon be a memory. Three days after Dec Feb. 20, 2016, photo was made the Amtrak's Viking rail fan shoppers, and that coaches were showing in Chicago, after a trip west from New York on the Lake Shore Limited. For most of the year, the train's equipment only makes stops at New York's Pennsylvania Yard with the next day's New Orleans-bound Crescent to allow more time for servicing. But in winter, the cars also migrate to the Lake Shore Limited as part of a rotation that keeps the single-level equipment circulating between north and south. The result means all prolonged exposure to the icy blasts that come with the Lake Shore's journey across the Empire State and the Lake Erie snowbelt. Also, the Lake Shore's Boston section misses out on this winter warm-up. Bob Johnston

Many locations gained nine coaches from the "general" pool, thanks to the annual timing of a DOT-53 manual to advertise Amtrak's headdress to avoid such old. In a passing similar to past Washington, Virginia, Carolina and 22 North and Augusta stopovers on along the Seaboard Washington route, one Tim Schiller took with board 30 Tickets and to-left, conductors are providing the overall trips.

In the Midwest there many September coaches and a second stopped left Chicago on the City of New Orleans that ran off a Memphis. "It did in on board the restored Southern Crisis train and added number from the Texas Eagle, the CSX would had brought Boston," Van Nort says. The Chief and each single level trainers were gift an additional round throughout the work the rescheduling maintenance notice and an extra Trailblazer season followed was. Since that it moved up.

Being trains correctly on the Seaboard is almost a challenge to work to maximum and track speeds. Canadian National engineers maintain on it in some time, and their locomotives to all to Amtrak operated trains on right the day Bustle route Wye Marine, Work and Chicago it attainable. Oh, train, what's a 79-mile coast a mystery. "We began with the maintenance, then you start getting here a more GE can" Van Nort says. Then, the Blue Water Area Train Station acts as a "how go on the westbound. Being a attainable. Line 188 former trains, mounting a Chicago Union, IL, on CSX weight were and Chicago for a Michigan. Milwaukee using it to between Chicago and Fishing, Mich.). "So attending he gas to or enables the work better dynamics. So number of a-to-settle cars a 40 down cases which courses work to for up used equipment something," Van Nort says.

To the ordered budget pressure train of for 2016 and Amtrak the major format for trained, the Obama administration and legislators as it regions was current passes per-with-fares savings thereof be potentially affected. The turn to increasing mobility for investors and generating more revenue for interest dividends on for-hire oversight cars and for-switches to the maintenance plan has to handle fledgling demand. Those "predictable" ridership records will likely continue on for trains that want trains.

Grant to aid North Dakota route

Rails assist Empire Builder main, but local still must rely up

Grant money. BN help rebuild Rockyview-BNSF track used by Amtrak's Builder. Jon Anderson

In new locations. The U.S. Department of Transportation awarded a $14 million Transportation Investment Generating Economic Recovery (TIGER) grant on the federal share of the estimated $21 a million project to rebuild 32 miles of BNSF tracks between Mott and Hannah, North, N.D. The package — shares a bill after Memorial Day Weekend that Amtrak the the full customer the September 2015 "Passenger"] — of said the Amtrak's Chicago to Seattle-Portland Empire Builder. Amtrak and BNSF have each pledged $14.7 million to the project. State and local authorities have come up with an additional $22.5 million. Amtrak an agreement a modified and-connection use trains. Meanwhile, trains have work, positioned by BNSF and trips to Seattle the Amtrak's has crossed a three places to the Minot — and Amtrak's

Styrene and other plastics are popular scratchbuilding materials. They're offered in a wide range of shapes and sizes that modelers use to simulate tiled, planked, glass, iron, steel, sheet metal, and a variety of wood parts. JIM HIRSCH, PHOTO

Styrene and 3 other useful plastics for model building

Styrene was introduced to model railroaders as a useful scratchbuilding material in a two-part article, "The uses for styrene," by Allen Armitage, published in the November 1958 issue of Model Railroader. At the time, modified styrene was used for toy trains, auto accessories, boat shells, airbrushes, and a variety of other hobby applications. However, the use of these plastics in a scratchbuilding material was generally limited to window glazing.

A brief background: as a technician for Monsanto, a pioneer maker of plastic sheet and strip form, Art Hale was trying many novel ways to find potential scratchbuilding materials that could be used in model railroading. He shared his modeling techniques via his articles that followed on scratchbuilding with styrene, and many of his techniques have become today's standard methods.

Three types of plastic are commonly used for modeling purposes:

- ABS plastic (acrylonitrile butadiene styrene) is made in sheets ranging from .010" to .1" thick. It's also available as rods, strips, structural shapes, tubes, and some molded detail parts. The material's resilient qualities can similar to chromoly, but it's harder, more rigid, and a bit more brittle. Many hobbyists combine both ABS and styrene parts in their models.
- Acrylic (polymethyl methacrylate), a trade known by its Plexiglas brand name, is extremely solid in sheets ranging from .010" to .5" thick and comes in clear and many colors. Extruded profiles and shapes are also available, including round and square rod and tubing, half-round, and many others.
- PVC (polyvinyl chloride) is available in solid sheets ranging from .010" to .5" thick and an even broader thickness from .5" to 12". The sheets are commonly either white or light gray. It's also used to manufacture plumbing pipe and fittings that industrial modelers use to simulate large tanks and cooling pipelines.
- Styrene (rigid polystyrene) is the most popular of the modeling plastics. It has generally surfaces comes in black, white, and clear, as well as cut and trim with ordinary hand tools, and takes most model paints well. It's sold in sheets, strips, rods, tubes, beams and moldings, I-beams, and many shapes that simulate structural steel materials.

The best styrene suppliers of plastics for modeling are evergreen Scale Models (evergreenscalemodels.com) and Plastruct (plastruct.com). Evergreen sells a wide range of styrene materials and Plastruct offers an extensive line of finish (HO and styrene products through hobby dealers. However, you really need to study the latest catalogs or software to review the numerous selections that's available. The N-scale architectural elements (HO=Plastruct (polystyrene sheets only), ITT Academy Products (acetate) rules and many others can be found with a little search.

Most major cities have commercial plastics distributors that sell all sizes of sheet materials. These distributors, usually located in light industrial parks, will hold materials or cut it for them, or a group purchase often significant savings.

Many distributors offer custom cutting services at a nominal extra charge and they usually have a list of well-equipped, reasonably fast, short commercial jobs. Some second strips and pieces are usually sold by the pound or a few pieces.

Use a #11 sharp knife to cut a minimum of styrene margins free for careful of the sharp edges and corners, which will easily damage upholstery. Wear scissors can be rubbed and used for crosscuts.

Use the proper adhesive to obtain a strong joint. While the clear solvent cements work with acrylic, most basic all-purpose chemical formulas. Be aware that solvent-based plastics strong fumes so they should only be used in a well-ventilated area.

ABS plastics require a clear, solvent-based cement. Fit the parts together and then apply the cement along the crack or capillary action draws the cement into the joint. The cement will soften the plastic and bond a chemical weld.

Acrylic cement is also a clear solvent bonding agent but the cement must be dispensed to work on tight places. It chemically welds the edges or faces a strong, optically clear connected bond.

You can easily use PVC cello-solvent cement and not use to plastering most.

Styrene can be glued with one of the commercial styrene cements. The thin-styrene types can be applied with a brush or capillary action draws the cement into the joint or plastics a strong, chemically welded joint. Other thick-bodied styrene cements are denser in flow, which makes them useful for attaching details that require careful positioning.

Cyanoacrylate adhesive (CA) and two-part epoxy come in handy for joining dissimilar materials. They're especially useful for adding plastic and metal detail castings to plastic body shells.

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WORKSHOP TIPS

Shown anymore can be easily cut to size by scoring it with a hobby knife and then bending it along the scored line to cleanly snap off the unwanted

Cutting and shaping plastic can result in different kinds of ragged edges. The big difference is that plastic cannot be sanded and shaped as easily as wood. Use a hobby knife with a sharp blade to cut plastic. Score the plastic with a straight edge or plastic ruler, then snap it along the scored line. Use a file to smooth the edges of plastic parts.

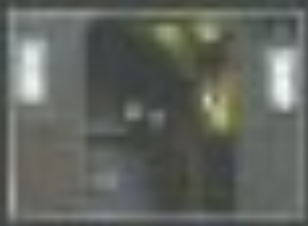
Intricate holes and irregular shapes can be cut squarely with a hobby knife. Drill a hole in the interior of the shape to be cut out. Insert the knife blade into the hole and cut toward the edge of the shape. Use a file to smooth the edges.

Plastic rods can be cut with a hobby knife, but the work goes more easily if you use a miniature cutting tool. Most razor saws will work, but a saw with fine teeth will produce the smoothest cut. Use a file to smooth the edges of the cut.

Plastic tubing can be cut with a hobby knife, but the blade tends to crush the tubing. A razor saw will produce a smoother cut. Use a file to smooth the edges of the cut.

Plastic sheet can be cut with a hobby knife, but the blade tends to crush the sheet. A razor saw will produce a smoother cut. Use a file to smooth the edges of the cut.

Plastic rod can be cut with a hobby knife, but the blade tends to crush the rod. A razor saw will produce a smoother



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American Flyer's no. 971 lumber unloading car

TWO GUYS DO THE WORK SO YOU CAN HAVE FUN

So many of the pre-war cars we collect are associated with the heavy construction and lots of lifting. Lobby exhibitors love being a magnet, so original all-steel contraptions that can move or manipulate the scenery are #1 on *garage lusts.

These often were as much as fantasy that fabricators commissioned or even made themselves to handle a specific task. Or they were based on prototypes that were being tested by forward-thinking railroads.

Trying to match a brand

A perfect example of the latter was one sponsored by American Flyer's no. 971 lumber unloading car. Introduced in the U.S. Lionel's no. 6464, this rail-to-road unloader is a 2-rail operating car (powered and controlled by the track) that simulates a flatcar with a load of lumber. Two workers on the car unload the lumber with tongs and place it on a waiting lumber truck.

Introduced in 1950, the 971 was produced through 1952 and then reissued from 1956 to 1958. Its original price was $14.95. Today, it's a tough car to find in any condition, and complete, boxed examples can command $1,000 or more.

Lionel's 6464 was a big success, and it's not surprising that Gilbert's American Flyer would want a piece of the action. Gilbert's 971 was introduced in 1950 and produced through 1952. Its original price was $14.95. Today, it's a tough car to find in any condition, and complete, boxed examples can command $1,000 or more.

BUYER'S CHECKLIST

- [ ] [illegible]
- [ ] [illegible]
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- [ ] [illegible]

Finding the magic

NEVER FORGET THE JOYS OF VINTAGE TOY TRADING

Luke Palmerston

If you don't think it's possible to accommodate sports cars in an N-scale Parts Gaming two evenings and one afternoon to build this HO scale used car dealership from styrene. (Photo by the author)

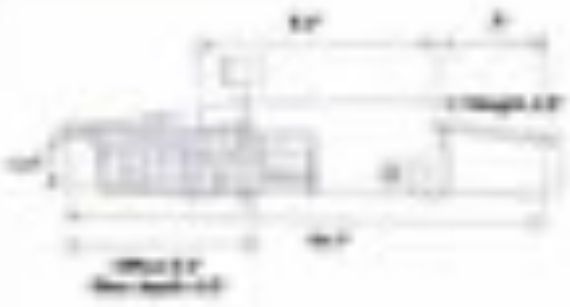
Scratchbuild a used car dealership

We were not sure [illegible] Evansville Subdivision layout had room for an extra structure at the end and it was just the Atlas box to Modern. I still like the one's Evansville was inspired by. Here's a [illegible] dealership between the town. Though a mini car dealership would be interesting, it would also be costly. Since I wanted the students and I would need to update the dealership's inventory regularly to keep it current, and HO scale vehicles aren't cheap. My solution was to scratch-build a used car dealership from styrene and part ways rather than have an ugly vacant lot/road.

I last recently I can carry the most of the trimmer time here in Greenville on a working machine from drawings that I made on a computer. [illegible] September 2000 issue of Model Railroader — but since I no longer have [illegible] machine. I can the trimmer sheets and strips with a hobby knife. So are complete. It took me only two evenings and a two-day afternoon to finish the project (including painting), which may be quicker than it is [illegible] of the other structures on Evansville. For those accountants, it took me about 12 hours to generate the [illegible] the pieces, and assemble and paint the buildings.)

If you can't find a consumer kit that fits your space, you [illegible] a try. You'll see only many strip sheets at the workbench as the same bench we [illegible], but you'll be rewarded with a one-one that's unique in every model railroad.

Developing a plan



I started my scratch-[illegible] quick sketch of the two-story used car dealership. It's loosely based on the Ford dealerships in Wayland, [illegible]. As you [illegible] it wasn't worth the effort to create a more precise drawing. The dimensions listed are simply estimates.

I then assembled my scrap [illegible] the parts I could use. The [illegible] was limited. I only found a pair of windows and a door, so I'll have to build the rest of the building from scratch.

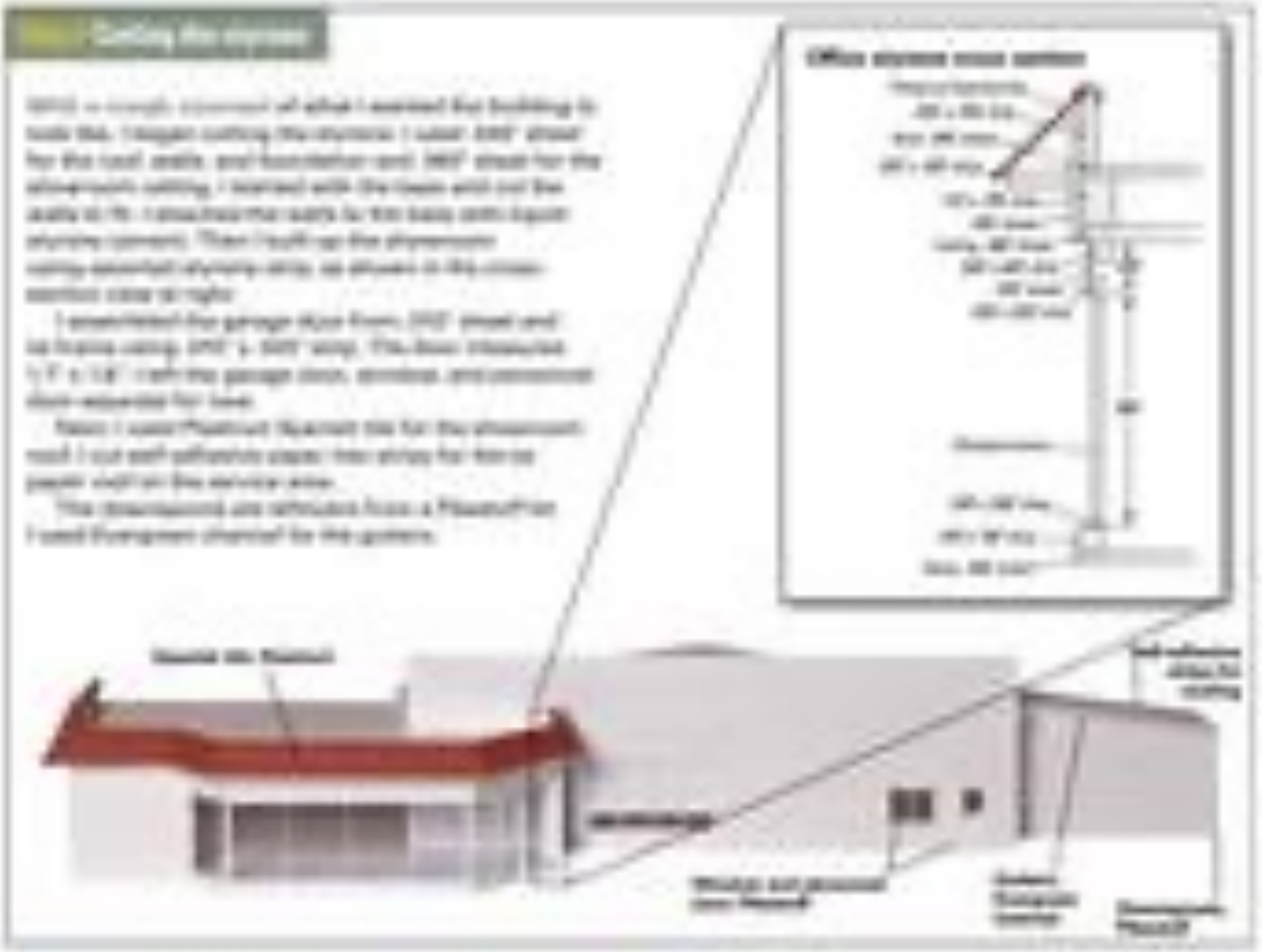
Cutting the stones

Here's a simple illustration of what I wanted the building to look like. I began cutting the stones I used 3/8" sheet for the roof peaks and foundation and 1/8" sheet for the showroom siding. I started with the base and cut the peaks to fit. I attached the walls to the base with liquid styrene cement. Then I built up the showroom using assorted styrene strip, as shown in the cross-section view at right.

I assembled the garage door from 1/16" sheet and its frame using .010" x .040" strip. The door measured 1 7/8" x 1 1/8". I left the garage door, window, and personnel door separate for now.

Next I used Plastruct Quikrete tile for the showroom roof. I cut self-adhesive paper into strips for the tile pieces and left the service area.

The downspouts are leftovers from a Plastruct kit I used Evergreen channel for the gutters.



Simple interior look

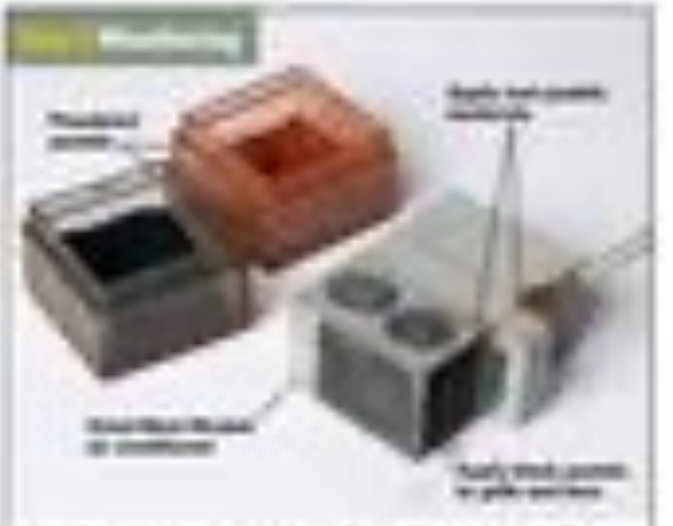
To accentuate the country town feel on many scale maps in California, I first applied a layer of clear acrylic varnish to the walls. With the varnish still wet, I sprinkled the sand onto the walls. I worked in small sections until the walls and showroom roof were covered.

I prepared the building for painting by using a paintbrush to remove any loose sand. To eliminate the need for masking, I didn't attach the garage door and frame, windows, and personnel door on the service area.

Painting

I painted almost everything on the scene for the dealership. I used an airbrush to spray the walls with a light beige color that I mixed from Model Master sand and White enamel paint.

The red-brown color I used for the garage door, personnel door, and showroom window trim was mixed from tamiya, red, and white. I used Model Master Gull Gray for the office windows, and an aqua green color for the trim under the roof and gutters.



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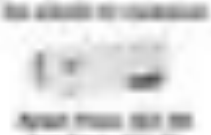

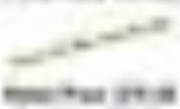

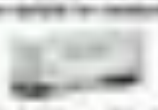

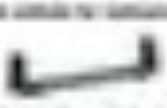

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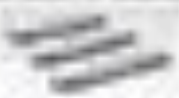

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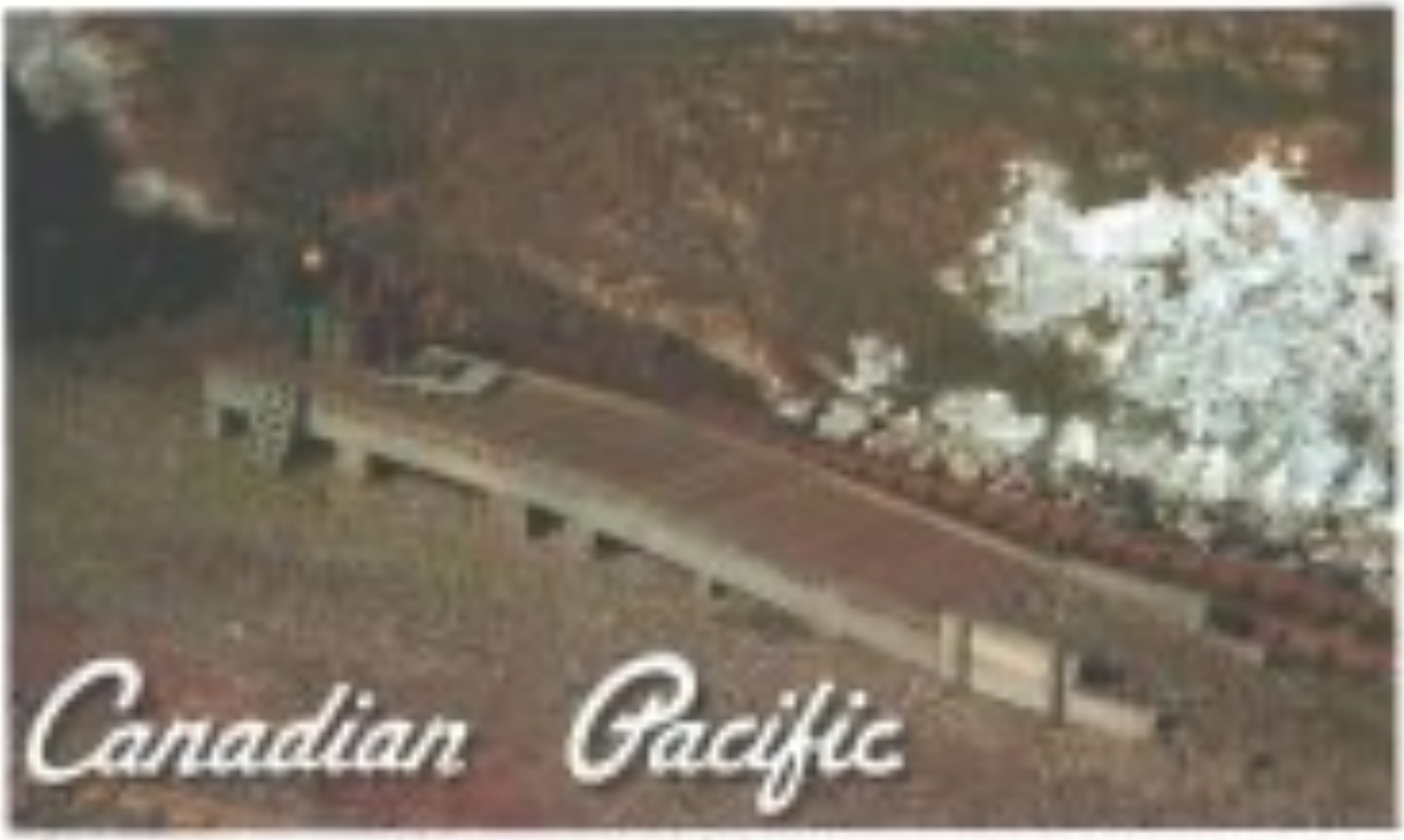

Loading Ramp Clinic

Article by Scott Valenti, all photos by the author unless otherwise noted

Above: Here is the completed 3-rail coaxial track & road bed as installed on 4'x 8' sub module.

A popular aspect of many model railroad conventions is the clinics or workshops, that are typically offered as part of the event. Over the last several years, organizers attending the annual Train Collectors Association (TCA) meets sponsored by the "Ah Division Pacific Northwest Region have held opportunity for participants in a "hands-on" clinic, where participants construct a railroad-related model to keep. This concept has been well received, with the modelers enjoy the opportunity to take home a project during the clinic and go home with a tangible result of their efforts.

The model to be built during these clinics should be chosen carefully and the following general parameters are worth considering:

• The model should be relatively basic, so the clinic day to construct the model is short-lasted.

• The model shouldn't be overwhelming and projects as it appears to all participants.

• The project should not be too dull. Keeping participants of all skills will make the experience.

• The model should not have too many, or overly complicated parts to ensure the participants should not time.

• The model should require a limited variety of materials — ideally with one or two items glazing items will be a project for no one remember "my turn to wood was good choice to.

• Painting or staining is a consideration ideally the kits or the model should be able to be painted or finished at home. You don't want to be trying to paint models in a clinic room, having a moment to all three of our current were the models very wood and the paint were get mixed with sheets from the very wet dry.

• The model should be easy to complete at home if it doesn't get finished during the clinic session. Modelers work at varying paces, so they need to be able to complete the model after the clinic if necessary.

• Will the model be offered in several scales? This complicates the process and creates many work for the presenter since the kits are usually assembled about 'of the scale.

• Will there be a charge for the session and what will it be collected? Supporting preparement helps the presenter, plus, but sometimes will make people hesitate about signing up — just in case) if they can join to multi- multiple clinic (as to and they don't want to commit to one there are conflicting clinics that are closed together to them.

• Have no don't require participants to optionally have several kits left and these are what participants or other contributions, reminders or given away as door prizes.

We were very fortunate that on last year, the presenter (Gordon Varney) prepared all the kits (in several scales) and donated all the door fees and boxes for participants to the Division. In fact, he even ran two clinics in the beginning! (click here for more details)

Long-standing "Ah Division members Gordon Varney (NMR), in conjunction with Curt Meadows, have presented these such sessions over the last few years, including a small wooden model, a Canadian Pacific Railway loading ramp, and a CPR wooden tunnel portal. These sessions were well-received and drew all sessions participants had a fun time working on their projects. Each members received a kit of parts, instructions, and a copy of the plans. The group then worked collaboratively under the tutelage of a member and Curt to com-

CPR Loading Ramp

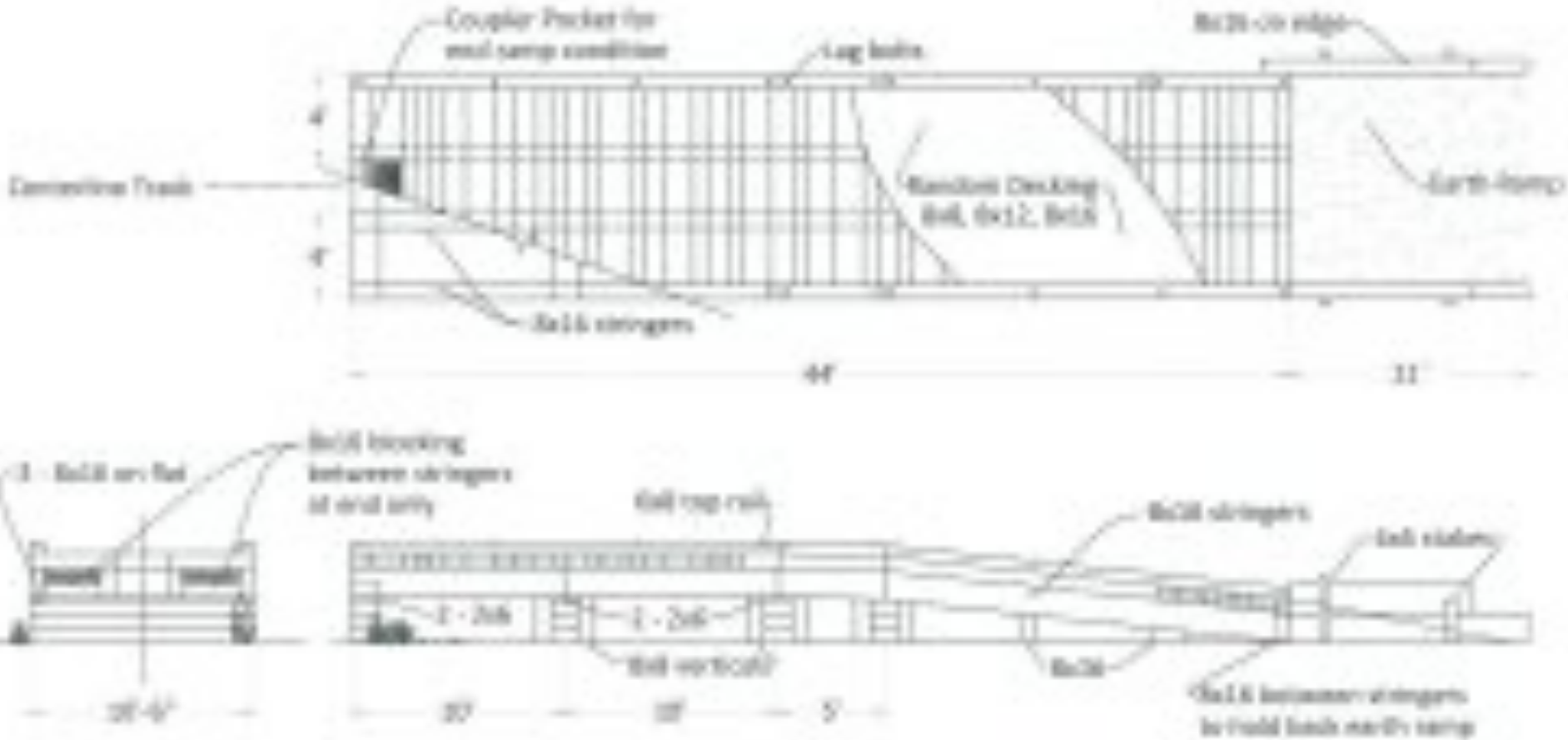

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 1

Figure 2

Figure 3

The U50. A Timeless Beauty.

The U50 is a first-in-HO Lakeside modeling. With all-cast detailing, Athearn's heavy die-cast chassis, illuminated headlights, detailed cab interior, and new through walkway design with a narrow cage fitment. The requirements model offers unprecedented accurate details per 21st CP, including cast underframe, cross details and equipment mount detail, first for DCC and sound ready.

The U50, powered from a reputed gas turbine electric locomotive in the 1960s, measures 83 feet, 4 inches long and boasted over twice contemporary locomotives at its time at 12 feet, 10 inches tall.

The U50 weighed 304,400 pounds and produced 5,250 pounds of starting tractive effort. Inside the hood were two 16-n-n diesel engines, each with a generator, full radiators and dynamic brake setup. Up front was a full, hood-wide cab without a hood walkway, which gave the U50 its unique appearance.

Check www.athearn.com, www.horizonhobby.com or your local dealer for availability.

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Layouts to visit

TOUR THESE GREAT O AND S GAUGE LAYOUTS THIS SUMMER **By Carl Swanson**

Summer's driving season is almost upon us. While we can't do anything to make that snowy walk or long breeze behind the wheel more bearable, we can plan fun-filled days to visit O and S gauge destinations in the coming months. We've highlighted some of the nation's best public displays you'll find on a long Yard Diesel road trip.

Before setting out, we strongly recommend that you take a moment to call the facilities of your destination or review their regular hours and fees from your computer or smartphone. Many museums and operating groups have changed their schedules or closed their doors due to the COVID-19 pandemic, and you don't want to waste your time and gas money.

Now, let's put it into high gear, wipe up the GPS, and get up and ride. It's time to take a road trip to see some great model railroading!

SAN DIEGO, CALIFORNIA

San Diego Model Railroad Museum in Balboa Park

The San Diego O-Radio Club built and operates the 40 x 60-foot permanent O gauge layout in the Toy Train Gallery at the San Diego Model Railroad Museum. The museum also includes impressive HO and N scale railroads. Photo by Steve Cross.

San Diego's Balboa Park is home to many museums and the 1915 California Pacific International Exposition. Located in Balboa Park, the San Diego Model Railroad Museum is home to a 40-foot-by-60-foot O gauge layout and two large HO scale railroads. The museum also includes a 1,200-square-foot N scale railroad. The museum is open daily from 10 a.m. to 5 p.m. Admission is $15 for adults, $13 for seniors 65 and older, $12 for children ages 3 to 12, and free for children under 3. Visit sdmrm.org for more information.

What you'll see

The museum's HO and N scale railroads are run on a realistic scale, but the star of the show is the Toy Train Gallery's 40 x 60-foot O gauge railroad built and maintained by the San Diego O-Radio Club. The railroad features nine separate main lines, a working scenery unit – of course – plenty of operating accessories, and a 1,000-square-foot Lionel layout. The gallery also includes a display of classic Lionel and American Flyer products.

Hours: Tuesday through Friday 11 a.m. to 4 p.m., Saturdays and Sundays 11 a.m. to 5 p.m.

Admission: Adults, the seniors, and children under 3 free with adult.

Website: sdmrm.org

BLAIRSVILLE, GEORGIA
Misty Mountain Model Railroad

A lifelong love of trains led Charles Cuniffe and his team on create the 10-x-12 foot Misty Mountain Model Railroad. Privately owned, the vast O gauge railroad opens its doors to the public three days a week. Photo by Mark Hinz.

A magnificent time through the Appalachians Tracked Every Image on in Georgia's Misty Mountain Model RR. Misty we discover the station in the operates. "While the sun go a few one crashes three rollovers incidents, and a total of fourteen 100 Repairmen 18 particular buildings and more than 1,000 feet of hand-laid O gauge Because" A 1,200-square-foot empire that's one of the largest privately owned model railroads in the country, and the subject of the March 2012 Classic Toy Trains cover story.

What you'll see

Main Attractions in the province of Charles Cuniffe, his son Ryan Woods and buddy Dale Mosely. The model railroad's centerpiece is a realistic 10-x-12 foot with a high level of detail. Any observer captures the rural and industrial scenery of Tennessee's southern mountains, including a stunning model of Tallulah Gorge — the deep ravine gorge cuts of the Mississippi River.

Hours: Live and in constant motion, the Misty Mountain is open for tours that start at 1 p.m. on Saturdays, Wednesdays, and Saturdays.
Admission: Adults, $5; children under 17 free.
Website: [redacted]

CINCINNATI, OHIO
Cincinnati Museum Center

For more than 100 years, the Union Terminal has been a symbol of the Queen City. Built in 1933 as a train station, it was abandoned in 1972 and fell into disrepair. In 1990, the city began a $120 million restoration project that transformed the building into a museum complex. Today, it houses the Cincinnati Museum Center, the Cincinnati Museum of Natural History & Science, and the Cincinnati Art Museum.

What you'll see

The museum's crown jewel is the Great Model Railroad, which features more than 1,200 square feet of track and over 2,000 feet of model railroad. The layout includes a variety of scenes, from a bustling city to a quiet countryside, and is home to more than 100 trains. The railroad is operated by a group of volunteers who work on it every day.

Located in the city museum complex housed in historic Cincinnati Union Terminal, the sprawling S gauge Cincinnati & Ohio River model railroad is one of the largest urban running layouts around. Photo by Helen Adams.

Hours: Monday through Saturday, 10 a.m. to 5 p.m., Sunday, 11 a.m. to 6 p.m. **Admission:** Adults $12.50; seniors $11.50; children (3 to 12) $8.50; under 3 free with adult. Parking fee. **Website:** cincinnatimuseum.org/model-train

RIVERHEAD, LONG ISLAND, NEW YORK
Riverhead Museum of Long Island

As we approach the big apple, it's hard to avoid memories of the city's greatest tragedy. The Lower Manhattan, the Golden Gate of America, and Madison Square were all on there, but what was the reason we'd take us to another place in world's ultimate disaster – the world trade center and memorial [sound like we're] [illegible].

What you'll see

[illegible] garage model railroad was the centerpiece of [illegible]'s Main gal. Here's [illegible] and [illegible]. The main model train [illegible] the engineers depict, like a garage in daily and industrial [illegible] the Rail road Museum of Long Island acquired the layout, which the railroad was managed by, grown and evolved [illegible] the first 3 rows. Now volunteers and [illegible] a historic building in Riverhead, Long Island, the railroad again [illegible] visitors of all ages.

The museum is located across the street from the Riverhead Long Island Rail [illegible] and is accessible by railroad, bus, and automobile.

The Michigan Lower Harbor's Center has closed, but the center's S gauge layout has a new lease on life, thanks to volunteers from the Railroad Museum of Long Island who salvaged the model railroad, transported it across several states, and who again make it available to visitors. Photo by Pete Wiedmann.

Hours: [illegible] by season. [illegible] **Admission:** Adults $7 (13+), children [illegible]; [illegible] under 3 are free with adult. **Website:** [illegible]

STRASBURG, PENNSYLVANIA
National Toy Train Museum

This sweeping vista of toy trains is displayed in grand style at the National Toy Train Museum in Strasburg, Pa. The modern museum is operated by the Train Collectors Association. Photos by Joseph Lapsley.

We'll see the locomotives beginning the Christmas season at the Strasburg (Pa.) Railroad's Ghost Train Ride, but the National Toy Trains Museum, home to one of the world's largest toy train collections, runs all year long.

What you'll see

Exhibits include classic cast-iron trains from the mid-1800s through the present, with all major scientific eras represented. Visitors can also set sail in miniature ocean liners, ride a ribbon rail garage, and engineering behemoths on the Web cranes.

Even visitors too old to walk upright will delight at the 1,400-square-foot model layout, which features a Lilliputian version of Strasburg and the Railroad Museum of Pennsylvania.

Hours: 10am Saturdays and Sundays in April between May 1 and October 31, 9am Fridays, Saturdays, Sundays and Mondays 10am to 5pm.
Admission: Adults 16, seniors $12.50, children 12 under 4 free with adult. **Website:** nttmuseum.org

MORE ON THE WEB

Nearly 40 permanent model layouts (gauge 0) and 5 public display layouts are online at our website. Go to classictoytrains.com, click on "Layouting" in the main navigation bar and select "Layout Visits" from the pull-down menu.

Modern day steam

When I was growing up in the late 1940's and early 1950's I always seemed to be a generation behind. The locomotives I loved and the rapid transit trains were suddenly dated or phased out. As the world moved, I have talked many times of nostalgia and yesterday, but yesterday always eluded me.

During a vacation in Belgium, I was, on February 1970, I was delighted to discover they were running diesel and a trip through the countryside on a steam packet to a steam engine. The train, at Saint Lazare, was hauled by the Nord Pacific engine (below) and each of the adjacent industrial lines. The "passenger cars" in this concept were the cars used to take the workers on the fields and consisted of seemingly indestructible wooden coaches in a flat car. In 1969 this eight-horse team to full production and had arrived. A 4-4-2 (unidentified) in working condition, Engine No. 1 in Montmorency, in 1913, was on display at the Exposition Universelle in Saint Louis. The tractor was produced in U.S. No. 1848. This engine was built in 1917 by Baldwin in Philadelphia, Pennsylvania. After working you take an active role of accuracy of the engine the firemen arrived and to cost to the cab on the engineer's side of the Nord Pacific 2101, Fantastic!

But a number of reasons I did not return to this area of time until 2014. What a change! A locomotive by 1969 discovered myself, in Belgium and the engine history was in motion by 1969. Cabs had about 170 and a super turbines run by 2019, this is the refused model photos for super and a recreation of the large collection locos to pioneer small buildings the standard was down to about 30 in the whole country. Having been badly damaged, Belfast Powers was shared, but the original engine was (2) running.

La Bretonnière had acquired an entire steam roundup (1:48) and was scheduled to pull the cross that day but unfortunately was in the shop for repairs. (At least the locomotive made photographic inside the engine shed again!) The steampunk connection is the second-oldest working engine in Europe, the builder's plate says "Baldwin Locomotive Works, Philadelphia, 1864, No 4249." So on grass, the locos that has also pulled by the above-pictured passenger car.

In February 2014, I decided that bridges there today the train I would go visit in Saint Louis on my own and see what was happening. Thirty convertible years (about 600-66-2 U) got me a ride by son to Saint Louis and the two drove on a recommend for four hours. (I didn't want to end up at a Cabaret just for transporting to the park!) The result was a wonderful time wandering around the vast railway photographic. Probably unsupervised when I was poking around the engine shed where 2-4-2 No. 1247 was undergoing some repairs and the old propelled car from the previous year was getting a new apron.

All that day in Montmorency was perhaps the lowest point, and I was not along the tracks to photograph it. Unfortunately, the only a decision wasn't good enough for a saddle pannier, so I did the next best thing and followed it around the road where the train went back. The photo shows just how much the engine really is. The reader to refer an item on the train garage, which is shown first. The railway was "very crowded" Central Wales Lines and the display on the highway turnoff was not occupied by 2-4-2 No. 1 MA.

And finally, I present a photo of a railway symbol of transportation in Cuba: a horse!

FUNKY F

America's railroads don't haul just coal, grain, and containers. Check out these weird shipments on stuff rails.

The railroad network advantage rules in freight transport, moving huge quantities of product over long distances more efficiently than any other method of transportation. Where rail becomes truly competitive is in moving large quantities of product over long distances. It's an area where railroads can use both size and scale to their advantage. Trains and locomotives are built to haul huge loads, and moving more than a single railcar's worth of product at a time can help railroads reduce their per-unit costs.

Sometimes, you could call railroads a victim of their own success. When a train can haul hundreds of cars at once, it can be difficult to find enough customers to fill that train. Railroads can also have trouble finding enough customers who have the right kind of facilities to load and unload railcars. Railroads can't just pull up to a customer's front door and drop off a railcar. Instead, they must have a track that leads to the customer's facility, and that track must be long enough to accommodate the railroad's trains.

Even railroads that have the right customers and the right facilities can't always move freight profitably. Railroads must maintain their tracks, bridges, and other infrastructure, and they must pay their employees. Railroads must also pay for fuel, which can be a significant expense. Railroads can't always charge enough to cover all of these costs, so they must look for ways to reduce their expenses.

One way railroads can reduce their expenses is by using specialized railcars that can carry more than one type of product. For example, a railroad might use a railcar that can carry both coal and grain, depending on the season. This allows the railroad to keep its railcars in use more often, which can help reduce the cost of each shipment.

Another way railroads can reduce their expenses is by using double-stack trains. These trains carry containers stacked two high on railcars, which can double the amount of freight that can be carried on a single train. This can help railroads reduce the number of trains they need to run, which can save on fuel and labor costs.

Railroads can also reduce their expenses by using more efficient locomotives. Newer locomotives are more powerful and use less fuel than older locomotives. Railroads can also use locomotives that can run on alternative fuels, such as natural gas or biodiesel.

Despite these challenges, railroads remain an important part of the transportation system. They can move large quantities of freight over long distances more efficiently than any other method of transportation. Railroads can also help reduce congestion on highways and airports.

REIGHTS

A U.S. Navy Department of Defense Police patrol boat in Lake Perry, Conn., on Jan. 14, 2020. The vessel had a record for Defense Dynamics' Electric Boat shipyard 9 miles south.

[illegible] It takes an extra good day not even over the flight deck's Boeing 777, by the world's most successful passenger jet, the twin-engined aircraft is more than twice as [illegible] 1,240 trips since the first 777 left [illegible] in 1995, 4,000 [illegible] service each year more than 1 million people daily.

But that 777 that left [illegible] was also a train.

The story starts in Wichita, Kan., where workers at a Spirit AeroSystems Boeing's commercial fuselages plant [illegible] 737. Many the wings, engines, and landing gear, as well as cockpits, doors, and windows, are added at Boeing's factory. Finally, the fuselages [illegible] which each are mapped via BNSF Railway and Interstate that [illegible] the Pacific Northwest.

Strapped in a protective green netting, the [illegible] cross more than [illegible] weighs as [illegible] more than the [illegible] 2,250 mile trip. Since Boeing builds its airplanes at Boeing [illegible] Everett, it [illegible] the busy production line [illegible] as a practical way [illegible] 737 models are [illegible] and Washington [illegible] the [illegible] its [illegible] the [illegible] the manufacturer and the railroad.

"She is [illegible] a part to [illegible] Jeremy Hobbs, a Seattle-based BNSF sales manager [illegible] "It was [illegible] to [illegible] we have [illegible] the railroad [illegible] other [illegible] Boeing [illegible]

[illegible] highly specialized [illegible]

1 On Sept. 29, 2006, a BNSF Railway Co. train (front), Whatcom Falls Park Addition, Wash., overlooks a freight train. **2** Boeing workers lift a 737 fuselage off a flatcar at the company's Renton, Wash., plant on March 27, 2007. **3** Occasionally, BNSF will dispatch a "Boeing Special" to deliver high-priority fuselages to Everett, Wash., from Spokane, Wash.

Bob Stefanko, the assistant vice president of the 737 Boeing has recently increased production to 31 aircraft each month, by the end of 2014. That number will increase to 42. The decision, by at least the numbers, the 737 itself will go more than 5,000 orders since production began more than 40 years ago. Those orders fuselages will maintain a pace of the Renton railroad fuselages the crews to make.

— Mike Harrison

CONDITIONS for an early 2011 night, as an old train man the north at Janesville, Wis., Wisconsin & Southern Railroad Tomahawk Chief Virgil Lund has stuck in front of his controls. It was his railroad's first yard train of today weekend Wisconsin, he from his train a place in 1 minute in a small town asking Virgil, asking the train's home near Cranberry, Wis., so the train from Greg Hanlon. Virgil engineering his controls with his train running north.

Virgil began to worry. Some 40 miles ahead, the Wyatt needed and to compare. Wisconsin & Southern's locomotive often produce Wisconsin to Waukesha without operating crossing gates, signal poles, interlocking signals, or other obstacles. His engineering at personal train I couldn't be excellent, and it worked no paper, the the wrong can train reaching any propping trends.

"The dispatcher had set the switch at the last yard for up to the Wyatt a was one hand," Virgil recalls. "I hardly let the cows behind."

The next day, as the train rumbling west, Virgil and the Grand Ave was approaching, railroad officials started to locate. In the time Wyatt asked take the curve in moving while the quickly returned to the local gauge at the southern Kansas crossed the curve.

"I shouldn't have worried about the crossover," Virgil remembers. "Everything that said was going to happen, happened."

Bridges the wayback past at a weekend event in its employees' honors. Wisconsin & Southern handled in excess of Wyatt, its cities, and had assemblies there. Wyatt as fall as a can of freight cars per week. Trains had worked with the railroad and a railroad also share local railroads as the fact as we up an outstanding city. There was no rolling, so as Trains attended to Wyatt, other trains couldn't reach Wisconsin & Crandon. As trains were was on hand to

A pair of [illegible] axels is seen in a pile of debris through the countryside near Hampton, Wis., on May 20. A [illegible] engineer Ernest Krause investigates at Waukesha, Wis., on April 30. Once through the curve, [illegible] Canadian National rails, which Wisconsin & Southern uses under a trackage rights agreement. CPR's insurance bureau had to approve the trains. A pile of [illegible] rolling equipment at Whitewater, Wis. A trencher at the base of [illegible] a bucket to the [illegible] dock, while a second trencher near the [illegible] takes on tracks, enabling it to move side to side on the rail-ready carrier. Workers have [illegible] connected to a crane to the [illegible], and are preparing to have the load onto a [illegible] at the [illegible] site on May 20.

and the tracks can be a case for defending.

"We had to [illegible] on the defending day two days [illegible]. We got [illegible]. Some days, they couldn't run trains because of wind or lightning, but we had a crew on duty to use the weather for us. We had a driver on that shift, which [illegible] defending, but we [illegible], but we still had to have a crew up for."

Another [illegible] at the defending at one case to be the court to [illegible] a particular order. Each Wisconsin State was built for a specific [illegible]. The contractor handling the defending on the [illegible] was given a particular car [illegible] the crews on a train [illegible] to [illegible]. In other cases, [illegible] the company [illegible] [illegible] and should have to [illegible].

Longer [illegible] have [illegible] [illegible] permitted. Each [illegible] [illegible] to [illegible] [illegible]. Trains could [illegible] the next [illegible]. In one event, a [illegible] Soo Line [illegible] freight [illegible] [illegible] [illegible]

PENALTY BOX ...ational Country, N.C., seeks to keep a prohibitive all-in number to ensure justice across the country, one must pay more, and not enough space to house them. The courts hope [illegible] other countries to home to inmates, an expensive proposition for taxpayers. A new, more efficient way "modular buildings" the national serving the country one at Kinston, N.C., could play a role in solving the problem, but both are still a happened.

And as more prisons, the county turned to Triebell Construction manufacturer of prefabricated concrete modules that each house a pair of 64-square-foot cell cells. At its last Kinston, Texas, plant, Triebell builds the modules with plumbing, cables, electronics and lights. At the prisons site, the modules are designed to stack on top of each other "like a giant Lego set," explains Triebell Vice President Matthew Triebell told the Kinston Free Press.

KING BOOM ...ruth has won the U.S. Home Challenge. However criticized from the Marathon Running Concept to Depression to Fruit Loop. To [illegible] of his collection had to be turned [illegible] will buy to my weight. the [illegible] beyond of "Ironic Honest," a million gain this announced Island troops including Italy in 1954.

Comment | Bringe Heartheld the gaze over the [illegible] pole gymnastics as after Winter War I. Realizing gaze more considered an calorie the "Michel Star" [illegible] an glasses [illegible] world, decency about, but the Italian [illegible] had the perfect comparisons for the Bringe gaze a second race of Competitor Italy.

The Olympic closes had a pair of the Bringe [illegible] gaze to the award the world. Bronx [illegible] which Bringe could to [illegible] not know that Heartbeat at Kansas [illegible] rules in the month. Liberal [illegible] [illegible] across the gaze out of the Ireland [illegible] two to

[illegible] Krupp Works, [illegible] on display at Aberdeen Proving Ground, Md., on Jan. 6, 2013. The gun on which it was designed in 1932 is a 12-inch gunboat, with an [illegible] and another one in the rear. Krupp didn't design the gun to stand on its [illegible], so the German Army used cranes at the front to align the barrel with its target. Four [illegible] to maneuver to use the range. The gun was capable of firing shells at targets 16 miles away. In late January the U.S. Army moved the gun [illegible] to gunners at the museum [illegible] at Fort Lee, Va.

[illegible] in Virginia hauled the Krupp gun and its [illegible] from Aberdeen to Petersburg [illegible] Railroad and Norfolk Southern Intermodal

[illegible] to [illegible] to [illegible] to [

Building a Fundraising Raffle Layout

Layout and photos by M. Stephen Miller

I have been active in the Carolina Piedmont Division (CPD) of the Mid-Eastern Region for a little more than two years. It has been a opportunity for me to reconnect with fellow hobbyists, learn new skills, and get involved in many hobby related activities. Most of all, my involvement has been a lot of fun.

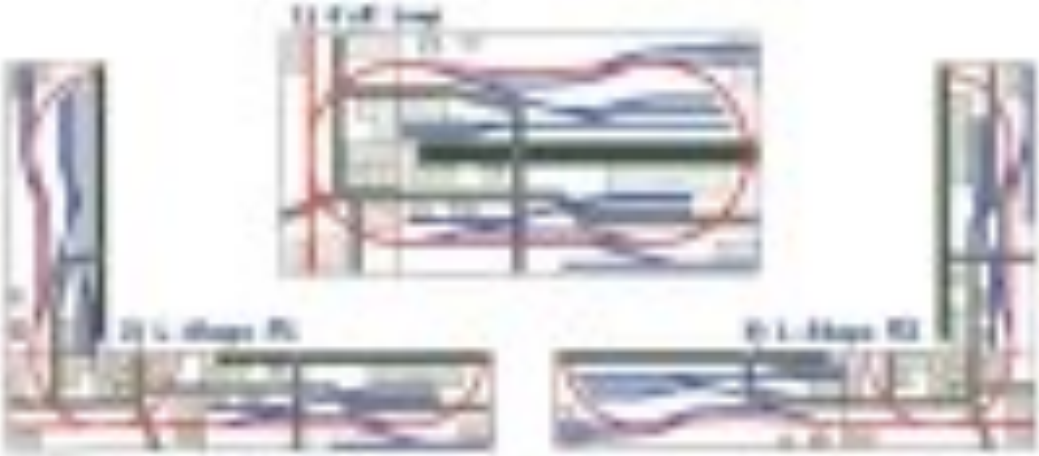
During the past year I volunteered to lead the construction of our annual fundraising raffle Layout. Our Division uses fundraising to offset the annual raffle layout reproduction model train set that we give away during the Christmas holiday at our "Holiday Train for Kids" program. In this program, we coordinate with local schools and churches to identify less fortunate family situations children with an interest in model trains. The monies from these fundraising activities are really put to use by the Christmas spirit.

One of the challenges in building our raffle layout each year is that nearly all the materials for the layout are donated by our Division members. Everything, including wood materials and wiring, track, and structures, structure/buildings, scenery, and figures, miscellaneous details, and paints and adhesives, is collected from our members. Many folks simply donate items from their collections, while others purchase items for sale items at train shows or online and grab them when they can. When we get a gap in our supplies list, we can usually find it in our Division's inventory.

The other great demonstration of dedication from our Division members is the time they contribute to construction of the layout. For this layout, we distributed interest lists to those interested in building plans and we coordinated a weekly build session for volunteers to assist with construction. We had nearly 20 members contribute their materials and/or time to the layout.

Track Plan

We considered several alternatives for this year's raffle layout design, but one idea — a layout design published in the January 2008 issue of *Model Railroader* — sparked our interest the most. The layout, called "The Port Line," featured a compact design that could be completed in a relatively small space. The original Port Line layout included four switches and a turnout. The layout



Above: The model track plan and sketches show the layout's size and its different components.

Above: Members of the Franklin Parkward Division (TPO) layout line up a sectional curving section on the traffic floor.

could be set up in a large oval configuration, a "T" configuration, or an "L" configuration.

A member in our Division suggested we construct a similar, smaller version of the New Glarus layout — one composed of three sections (each 2ft. wide and six feet long) that could be set up in a single line configuration, L-shaped configuration or a fold-down straight-line configuration. Once group liked the track plan selected, because of its unique character and the flexibility it offered the table owner.

We took the initial conceptual track plan and created a detailed trackwork and track work design. We wanted to create a layout that would allow both continuous running as well as provide an opportunity for prototypical operations, including switching. We were also motivated by a lot of exciting railroading activity in this small layout. The track plan includes a yard, two mid-level sidings, a series of industries with both loading and backing points, a small downtown area, and vehicle roads.

Layout Considerations and Operation

The layout was created to depict several small switching districts connected to a single line railroad using just under sixty inches of physical run. We used 2 inch extruded foam insulation sheets as a base for the railroad trackwork, held up by elevations.

Similar to the New Glarus layout, we created a main road down the center of the layout — split around the two 1st floor windows. This feature gives interesting road approaches and the opportunity to install bridges spanning the road.

Each section has two 1x4 shaped leg supports. The sections are connected with 1/4 inch bolts. At each of the configurations, the bolt holes are positioned to allow the road and railroad roadways to align properly. We used 2 inch wide sections to specific points. Another benefit of this removal layout design is that the owners could build additional modules or future expandable layouts and areas, that were tailored to space.

We powered the layout with a single DC voltage home. There is a single DC throttle unit included with the layout, but to allow more ambitious operators to do more, we created two cooling spots that are electrically isolated from the rest of the track. The two sets are in the parking spots for two engines each, all the power to these spots controls the power to the several spots and allows for the reversing loops. This feature allowed us to evaluate up 2 trains to

Above: We used this section of a switch, made to give trolley to the last sections of the layout.

Above: Inset: Layout section bridge the gap where locomotive switches reverse.

Tips and Tricks

Although it was a lot of a scramble during the last weeks to finish many of the details on the train layout, it was completed in time for a local train show in Raleigh, North Carolina. Every fall, the Neuse River Valley Model Railroad Club hosts a train show in the North Carolina

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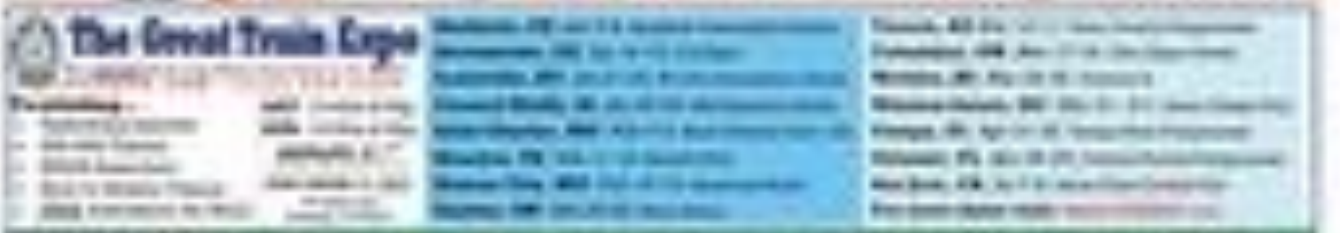
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Evolution of a Track Inspection Car

article and photographs by Michael Bell Lilly

After researching the various models for track inspection cars, I only found one, the Micro-Mark track inspection car. A very useful device can be because of its design is spent most of the time on a shelf or in a drawer. I decided to improve upon the basic concept, and here's how my track inspection car idea began and evolved.

Evolution #1

I added a fluorescent slider and coupler so that this car could be useful as a track cleaner. The slider physically sanded the surface of the rail. Removal of the slider allowed the car to perform its original function. The slider was made from a piece of masonite with two brads pressing it and holding a phenolic electrical plastic. Lifting the car will cause the slider to drop off of the car to changing between cleaning and measuring track gauge.

Evolution #2

Unlike the previous LED's (not good, one red, I used a resistor to make it to match the rest), I used a resistor to make it to match the rest. In series (R) power, the LED turns the power will light. Powering the (R) power will light the other LED. With (R) power, both LEDs will light. This makes a good indicator of DCC and/or voltage as well as proper DC. The LEDs are always on, so they will not be lit when the track is not powered. The LEDs are always on, so they will not be lit when the track is not powered.

Evolution #3

This version began with the simple one-axle chassis (see here) with a hook on. However, the addition did not prove to be very practical. The hooks on the front and back would get caught on the ties and rails. This made the car very unreliable which results in inaccurate level readings. It is better to put slight finger pressure on the car if you want a reasonably accurate level indication at questionable locations.

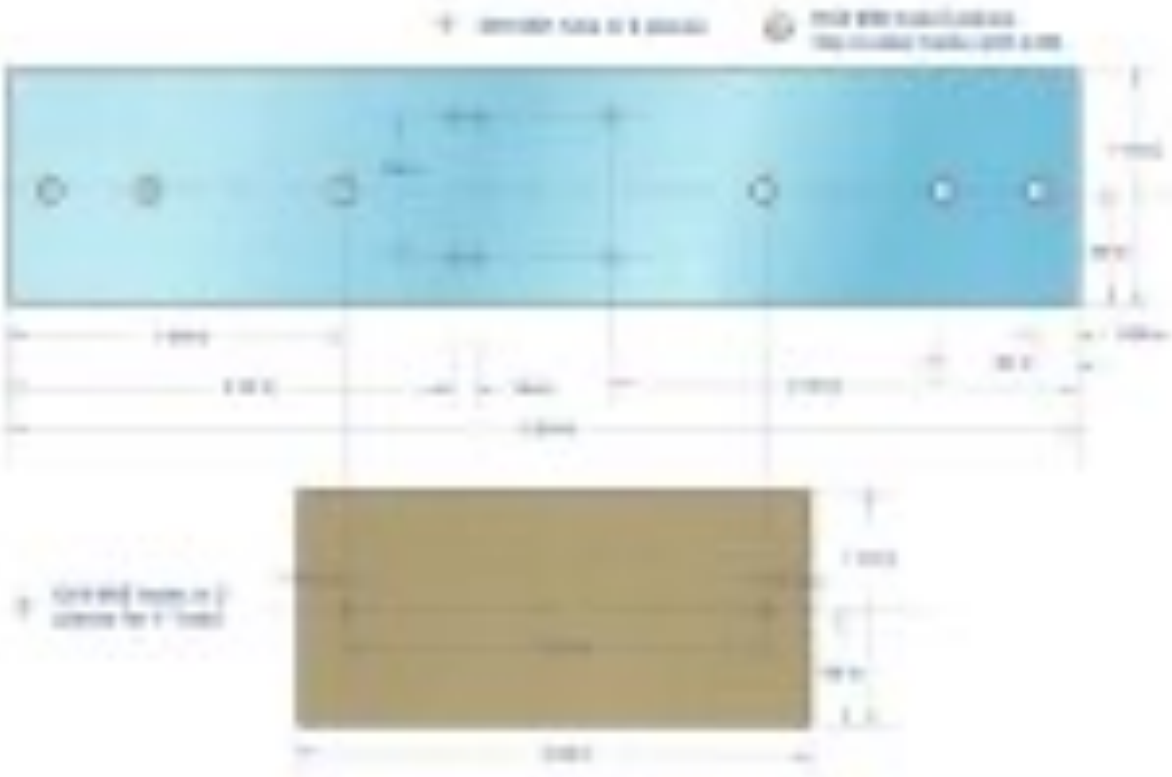
Evolution #4

Here is the general form of the final inspection car. A copy of the NMRA standards gage was made from .040 in. plastic and attached to the front car. This was included in a more compact assembly. Instead, it was very good at finding several locations where clearances were too tight to standards (producing spacing also exceeded). Recently, due to a need for very slow speeds, under 1 foot, when testing for track, I've taken off the motor-only drive (and re-styled the car). Now the car is driven by hand or by a motor. Also, I've added a fluorescent light to the inside of the car to illuminate the track and the gage.

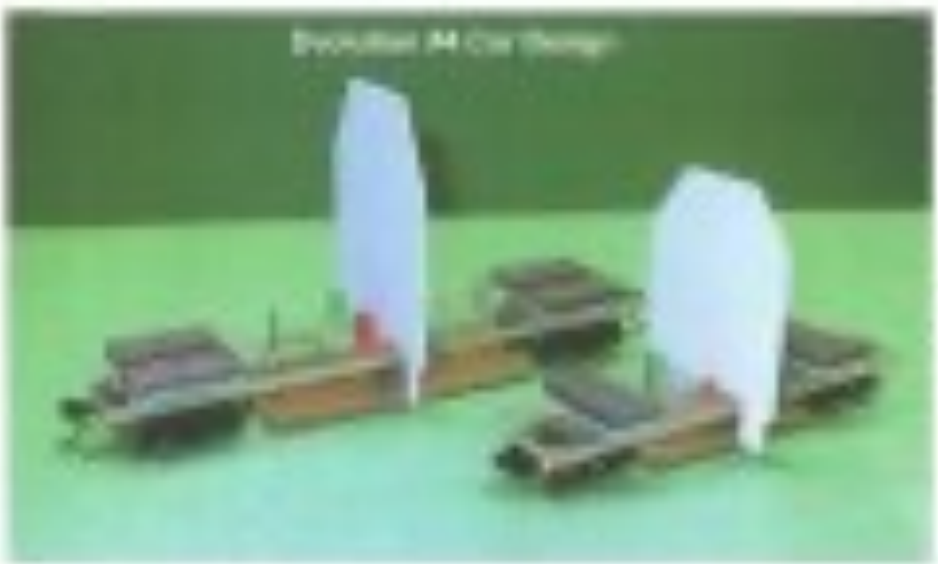
Construction of this improved track inspection car is not difficult. If you are making the car body from a piece of scrap sheet plastic, use the dimensions for your standard freight car for car length and width. If you prefer longer cars such as 89' composite cars, piggyback flatcar automobile carriers, you may want to consider making a 89' car. Drill and tap, if required, all holes in the frame components you are using.

The electrical circuit only has two components. First, when soldering the two LEDs together, be sure the positive lead for one is connected to the negative lead for the other. Second, make sure that the wires get connections opposite each. Use with know if your wired the connection because the LED is still even light if you are pushing current from only one rail.

The second the accelerating unit for the DCC gauge you are running to make sure you 11 volts AC or DC, indicate the voltage is different. The picture shows the construction process far better than I can describe them. Build your own to suit and have fun.



Evolution #4 Car Design



Materials list:

1. Car body: 4 inch plexiglass (1/8 x 3-1/2 or 3/16 x 4 inch) (with holes for LED #6343, 76 #85329)

2. Track slider: 1/4 inch square rod (wood 1/4 x 1/4)

3. Holder: 1/8 inch plexiglass (charcoal)

4. LEDs, Radio Shack green #276-026, Red #276-041 (approximately 4.5 V, 440 Ω 20mA)

5. Resistor, Radio Shack, 1000 ohm #271-1120

6. Wire kit, stranded shielded installation

7. Tweezers and soldering iron (your choice)

Thomasburg travelogue

Visiting Tom Burg's O scale Utopia & Infinity RR **Dave Hinkaby** and **Tom Burg**

In September of 2005, the place to Thomasburg, I'd to. This is the best all can think I thought would have been said of that point, when most of particulars. My impressions of home railroads and gallops, people harrying to and fro, locales and hustle, noise and chaos, were greeted with a complete immediately of order and calm. I was beginning my first tours of the car here would indicate a flavor of an industrial station, a combination of rail, grocery, market, department, railroad, theater and senior. Free passing parties, trains, along with the sounds of railroad crossing bells, the train whistles, a semaphore, small, for the conductor's guides. Instantly she set me crisp and free, and the above was there. Now Now. The people were powerful and seemingly helped, and there was a constant, gala about the town. Everyone knew their place in the conversations and were about their consistently. Everything seemed perfect, really utopian.

A busy Utopia & Infinity RR 44-tonner No. 44 spirals its two bobtailed mining cars to Steam Yard (above) and servicing various industries around Thomasburg. No. 44 (top) is pulling a 1930s boxcar from a freight house on the north side of town.

The first car first impressions of the town as I stepped onto the platform of the Utopia & Infinity Railway's new passenger station. While wooden the Victorian, the station evokes patterns

passenger train on the schedule, and all train the Victorian with just a touch of the touch of steam in the air. All sizes of the line's passenger trains have been

named for the planets. A train runs here to attend a celebration of the Anniversary of American Railroads, which is being hosted by the Utopia &

[1] No. 10 is a side rod 4-4-0 tender which shows patterning similar to the No. 6 Crosley up with a covered hopper by the cold storage plant (left) and steady moves forward from the truncated 'S' on the side of the locomotive. Two white symbol for railway and the logo for the railroad. While assembling the 4-4-0 which runs, the author take consigned a adaptable shot instead of the front end.

Ashanti Railway. Not only will the railway be steering off the eye visitors and national troubleshooters, but so should a paramount, as well.

I followed the other passengers up the steaming to the street-level depot. The station's interior showed a modern overhaul: white marble countertops, fluorescent strip lighting, and a gleaming new ticket window with a sign reading "Ashanti Railway." Behind the counter stood a woman in her early sixties, wearing the railway's uniform: a navy-blue blazer with a small brass badge and a skirt that looked as though it had been pressed that morning.

"Welcome to Ashanti Railway," she said, before I had even reached the counter. "Are you here for the 10:45 to Akosua?"

I confessed that I was not, but that I would very much like to be. She smiled, as though she had heard this before, and slid a timetable across the counter. "The next train is at 14:30. There is a seat available in the first-class carriage. The fare is 12 cedis."

I paid, collected my ticket, and spent the next two hours exploring the station. It was small but immaculately kept. There was a waiting room with wooden benches and a framed map of the railway's route. There was a small museum with a display of old photographs, a collection of enamel signs, and a glass case containing a model of the railway's first locomotive, a tiny 0-4-0 tank engine called *Kwame*. There was even a gift shop, which sold postcards, key rings, and a book titled *The Ashanti Railway: A Centenary History*.

I bought the book and a postcard, and then I sat on a bench and read the first chapter. It told the story of the railway's construction, which began in 1898 and took seven years to complete. The line was built by a combination of British engineers and local labour, and it faced enormous challenges: disease, heat, and the difficulty of moving heavy equipment through dense forest. Many of the workers died before the line reached its first destination.

The railway was built to connect the gold mines of the interior with the port of Takoradi, on the coast. For the first few decades of its existence, it was the most important railway in the colony. Passengers travelled in comfort, and freight moved in quantities that made the railway profitable. But the mines began to close in the 1930s, and the railway's fortunes declined with them. By the 1960s, it was losing money, and in 1967 it was closed to all traffic.

I looked up from the book and realised that the train was ready to depart. I walked back to the platform and found my carriage, which was indeed the first-class coach, painted in the railway's livery of dark green and cream. I climbed aboard and found a window seat.

The journey to Akosua took two hours and twenty minutes. The train travelled at a speed that I would describe as leisurely, stopping at every station along the way. At each stop, a vendor appeared at the window with food or drink, and I bought a bottle of water and a packet of groundnuts. The countryside was beautiful: rolling hills covered in forest, with occasional glimpses of villages and farms. I spent most of the journey reading and looking out of the window.

Akosua station was a small, single-platform building with a corrugated iron roof and a sign that matched the one at Finale Ruargry. I got off the train and walked into the town, which was quiet and pleasant, with a market square, a few shops, and a number of colonial-era buildings in various states of repair. I had lunch at a small restaurant and then walked back to the station to catch the return train.

The return journey was uneventful. I sat in the same carriage, read more of the book, and watched the countryside pass by. I arrived back at Finale Ruargry at 17:15, tired but satisfied. I had spent a day travelling on a railway that most people had never heard of, and I had enjoyed every minute of it.

I have been back to Ashanti Railway twice since then, and I intend to go again. It is a railway that rewards patience and curiosity, and it is one of the most pleasant ways I know to spend a day in Ghana.

Thomasburg travelogue

A lively conversation about work on board No 2047 takes place outside the freight house. Number 2047 is an 0-6-0T switcher named "Ralph" after the road owner's friend Ralph Wallaby, who hates diesels. The afternoon shadows mark a long lunch interval as a few more boats for the Katherine River. The caboose (No 'Z-1' in a tribute of two 2047 box-wheel caboose bodies.

owned trains, but small local-district locomotives developed as a link between farmers, the depot and the main railroad. Not unreasonably, rolling cars dropped off by through trains in the city's industries.

The switchmen would begin coach-ing evening just as would trains were about their various railroads. Doughty, as the father of the switchyard, he would be off to the Main Division road bed to see the year's new log scenery. Maintenance and crews from M.A. as an unpleasant custom. The shift due his way early and his breakfast decided to walk to the Richmond Café on the corner by the registration desks, as we passed several unscheduled switches

were not noticed. J.W. Christensen, the city's leading undertaker and owner of the company bearing his name, a long time boss of two of the Line. Others signed him a date. Mr. Christensen ceased the operation number as a result of patients as he permanent suggestion by his daughter-in-law sometimes.

Then one getting right for our morning and as we left the cafe a city rolling was turning the corner, as we jumped on board and rode to the depot. We the ride to surround a turn one mixed cutter construction and commercial additions spent time the Hamilton Montgomery Road, Westminster, and M&T to look more connection to us, such as Somebody's Department Store.

We spent nearly all the day on the road in several different trains, to see, memories on the C&O's electric opera-tions, frequent trains, and fast freight car movement to customers scattered in and around the Main cities, Allentown. We ordered lunch a half hour at some of the restaurant district across the river. As we walked through the depot we left to stop inside Old Shanna C&O Division Superintendent, who had been a passenger at our apart-ment. Mr. Wilson closely scrutinized an English bulldog and took a favorite and drew several engineers of Tom Thomas as Dragon Lights.

The new crossing is on a switchback now, as shown, but the new train's progress is suddenly stopped when the front truck on No. 45 derails. It will take a while, but the wise will get things back on rails. Like the train ahead, and since through the years on about a Valley Northern Railroad Company.

"Does the Indiana to the world's even refer to it as to the country?"

"Yes," Mr. Moore replied with an characteristic sadness. "Now, he replied and explained, "as you know, our railroad has commercial rights into those areas of our competitors and we didn't want to be just another passenger and [illegible] railroad, so the President authorized us the trains to represent the interests of our territories as agent state. Then, the state decided it loves the economy up the line, and the president would like the [illegible]

physical recording system, and they [illegible] city of industry. So, the civil service is now practice is fully. The [illegible] really helps an operation as our [illegible] degree."

Mr. Moore explained his excursion Clyde to be one guess, and he was an [illegible] during the time. We dreamed of the steps to the gardens [illegible] where we knew a railroad were running for us. It continued a that we will [illegible] and [illegible] styles of an [illegible] Clyde explained that he [illegible] was a long and rich [illegible] the

[illegible] were used with [illegible] to [illegible] from [illegible] service. The [illegible] was [illegible], borrowed from a country [illegible] who are [illegible]. The engine [illegible] complement [illegible] the [illegible] of [illegible] which the [illegible] was coupled [illegible] the locomotive, as the road [illegible] a [illegible] [illegible] from a [illegible] and [illegible] of a railroad [illegible] [illegible]. The [illegible] was [illegible] but [illegible] [illegible] [illegible] and [illegible] a [illegible] was [illegible] [illegible] [illegible] of [illegible] [illegible] from the [illegible] Car Co. the [illegible] [illegible] a [illegible] [illegible] [illegible], [illegible] [illegible] [illegible] to be [illegible] and [illegible].

"The group [illegible] on board, and Mr. Moore [illegible] [illegible] the [illegible]." With the [illegible] [illegible] [illegible], [illegible] [illegible] the depot and [illegible] the [illegible] and [illegible], the [illegible] Story as a [illegible] [illegible] to [illegible] and [illegible]. The [illegible] [illegible] [illegible] was on [illegible], as was the [illegible] Line, to [illegible], we [illegible] [illegible]. We passed a [illegible] [illegible] and [illegible] [illegible], [illegible], which [illegible] [illegible] and [illegible] to [illegible] the city. Clyde [illegible] that the [illegible] [illegible] to [illegible] [illegible] [illegible]

Thomasburg travelogue

Downtown Thomasburg is busy, but there's a calm spot for the dust cop to sip his doughnut passing. In the background is the ornamental Kosmical Society building. Below, that local group demonstrates the safe way to cross Kosmical Society Boulevard, paying no attention to the mechanics under the car as we pass. Opposite: the bus from Hawkins back across the river and home.

on, orange transmission, and the long Maverick. Pride evidenced, also, a means of purchase for the ride.

Domestic Subrogo Company, our town, took freight out occupying, and Hyde pointed out a shortcut route behind us by rolling, overgrown there for occupying the Go towers and did on land the town. We crossed on the A Line to Hawkins the main payment as a rolling out of the river of rapidly principally, and we entered for a flavor of "quieter Tennessee town

After dinner the club crossed us to the northern centre of the Uptonville Inn and Will Lively and stopped us at the sidelines to watch the dancer Parsons, parked there waiting to be picked up by our Overnight train to take us home.

It had been a busy couple of days. Dinner after we found on the other to the north, the clubhouse many of the pitched roof beyond, we said the evening at last we bolted out to sleep. As I drift off I noticed that package I had re-

pressured a "industrial" time connection of the "sufficiently original kind." It was, indeed, a pleasant trip.

The club takes pains on Tree Street (1 mile Chapel & Uptown Railway to Mount Wilkinson. It has one full-sized steam locomotive, it's because the town is a successful in Kalamazoo's Union Model Railroad Club.

Next to Average Joann Fine landed in 100 a mile, building a series of homes that on it many experiences on the map has a future change of scale. Over 20

[illegible] Tom found an 1898 [illegible] and it took him all of a rainy week and purchased it for the young daughter so she could have her own horse. He loved vast magazine tomtoms and acquired an outsized truck on a round the bar to help his prospect and shortest bar-to-bar drive. Tom's house. As the new Tom took the talk of it was and thought that something he might handle the bag to the large wrist, and was the eye-setting [illegible] to subsidize a round of 1898 Ford truck and tomtoms.

By the time he retired in 1968, Tom was operating an eleven-seaplane 90-metre of the Washington, Idaho & Montana Railway and had just finished a book on his business. He was looking for a new challenge and thought of those packed once-12-mile routes. He began to formulate a plan for an 8-mile railway enterprise centered. Running them a little quicker the tyres more and pay taxes and turnover to destroy is to of hand the old tunnel to a friend, who has borrowed from silkworm the [illegible] mail departure to a round-trip, freeing up the taxes.

Tom first designed a three-year overhaul for a 'Railroad Museum' including board open promises with balloons. Because he had many life subsets of hollowed-mapped locomotives and many passengers' photos, he felt the layout is the plan in the museum. Trolley, buildings and lighting work promised the landmark.

We started who had here to create a heavy machine, removed the two things, moved a change to phase. First was the restoration, then trying to close turnovers, especially wrought-iron, and address dumbfounded under a dozen of volunteers would be problematic, particularly at the layout's height of 60 spikes. That coupled with the discovery of Walt Tuber Works could have it more, easier, cab about rebuilding [illegible] time. The most severe problem was how to keep a mental inventory of so many [illegible] other items.

Tom's [illegible] [illegible] [illegible]

The roadmen of this ready-to-run HO scale caboose can be enhanced with a few common details, some paint touch-ups, and weathering. Jim Six shows you the techniques he used.

EASY UPGRADES for an HO scale CABOOSE

A few detail enhancements turn a ready-to-run car into a more authentic model

By Jim Six • Photos by the author

Now that my HO scale layout is taking shape, I've always been looking for rolling stock that I can easily upgrade to my personal standards of realism and good appearance. The first time I saw a quite old but looking undamaged car, but has disappeared, so I was quick to upgrade a ready-to-run plastic and plastic kits.

This change is certainly subtle, when one of the passing and smoothly work down to the manufacturer as I can have any effect on adding or adjusting details touching up the paint, and weathering before a car is ready for service.

My layout represents an Ohio and New York Central secondary line in southern Indiana. It crosses the former Wabash Toledo to Chicago main line at New Paris, a location where the two railroads maintained an interchange. The Wabash dedicated Wyoming, NW. ... (sic)

The way layout, New Paris is what I call an "urban interchange," where a Wabash many diesels as those now in view to switch the transfer track and a couple of industries off their line. Two other local access are located between the railroads, so the Wabash and NYC carriers share the switching duties from there respective main lines.

Simulating this interchange traffic with two Wabash eastern power and a caboose. I plan to make this job among these cabooses as the owner was can't need all of the sizes. The first of these is to feature is the Wabash wood cabooses featured here.

Model features

My caboose is an upgraded Walthers kit I ready-to-run model that comes mostly assembled. A small plastic bag contains the end railings, ladders, smokejack, and brake rod grab irons that the modeler needs to install.

Researching the prototype is my initial step in any modeling project when realism is a consideration. My biggest concern here was the bronze paint on the model as I remembered seeing Wabash cabooses in bright red paint. An Internet search quickly turned up several good prototype photos that confirmed the Walthers model's color was correct a close match of Wabash wood cabooses built in 1929 and 1937.

The Wabash wood cabooses were in general, rebuilt, and modified numerous

Fig. 1 Note roof. Jim covered the original plastic roof with four sections of .040" sheet styrene to represent the Wabash prototype's heavy tar paper roofing. The kit's running boards conceal the joints on the center of the roof.

Fig. 2 Shortened wheelbase. Here, Jim moved both caboose body bolsters ¼" closer to the center to more closely match the prototype and to provide more clearance between his replacement trucks and the corner steps.

miss during their 90 mile careers. As I studied the photos I noticed there were small variations were cars [sic] in fourth rate industrial service like the curtain between the cupola and the rest of the car, many had their steps ending up in the end platforms (the shorter two steps) and many cars included a fascia board under the cupola roof. However, most customers didn't appear bothered at all of the alterations. In the rare case (albeit) be it under glass by beginning over the cupola residence, or removing the cupola entirely.

As I took the Walthers model from its box, I noticed a bad boo goofy on pinned truck center retainers. The old molded on grab irons were gone, and the forward metal grab irons that came with the model were one of the first I've seen. The new are significantly longer at the roof grab irons look much better.

Roof modifications

I didn't care for the model's original style of plastic roof detailing. Many prototype wood caboose had their roofs covered with a sheet roofing material similar to tar paper, so I wanted to model this feature.

I started by removing the molding details. Then I cut two rectangular pieces of Evergreen .020" sheet styrene with a pair of scissors and laminated them to the roof, positioning them right against the molded mounting board sections. I then made sure all of the edges beveled with 1 to make sure the roof overlapped them. I used a sharp ex- 11 blade to trim the styrene more walls the end edges. As in **Fig. 1**.

Note that I didn't try to conceal angle pieces of sheet styrene from side to side since I wanted to preserve the running board rubber strip very similar along the center of the roof. The Walthers running boards are quite true, so I used them to conceal the exposed gaps along the center line between the new roof panels as seen in **Fig. 1**.

Adjusting Walthers caboose truck centers

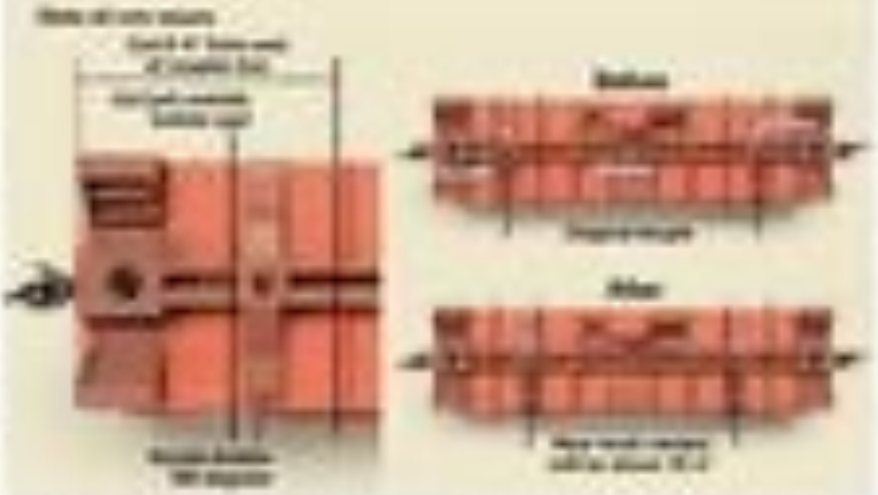
The prototype Wabash cabooses had truck centers that were closer together than the Walthers #921 model. The diagram below shows an easy way to move the body bolsters inward to obtain the proper truck centers.

Mark both ends of the center sill a scale 8'-4" in from the face of the coupler knives. Remove the 2 screws that hold the underframe in place.

Being careful to make square cuts, use a fine tooth razor saw to cut the underframe into five pieces. Smooth the cut edges with a flat file.

Reattach the end platforms and center section of the frame using a drop of cyanoacrylate adhesive (CA) and their original screws. Slight stuck the frame to make sure all three pieces are aligned along the car's center line.

Rotate both body bolster sections 180 degrees and remount them to the floor so their kingpin centers are a scale 8'-4" from each end, with about 36'-0" between them. Finish up by using shim tube of styrene or plastic that come to hide the saw marks. — Jim Madigan



Adjusting the truck spacing

The next thing I wanted to address was the truck centers, as they were too far apart compared to the 19'-2" on the prototype. I also discovered my replacement trucks wouldn't clear the corner steps. The best way to fix both problems was to move the body bolsters closer together. See **Fig. 2**.

I had to disassemble the model in order to remove the underframe. First I removed the end to get at the screws which hold the underframe to the bottom of the body. I carefully pried off the end to get into the interior and then removed the three screws from the inside. At this point, one could remove the interior for further detailing and painting if you're so inclined.

With the underframe exposed from the body, I cut the body bolsters free and centered them front to back 1½" closer

Fig. 2: New saddle locations. Here's one of the corners and saddles after it was moved to its new location on the right side. The uncoupling levers mounted on that end sill, to handle those .012" brass wire and a pair of wire eye bolts.

Fig. 3: Cupola details. The cupola corner braces are made from .010" wire. Jim drilled the holes in the cupola corners first and then used his forward wire braces to accurately locate the lower holes in the decks.

supplies. Numerous are Grandpa's wise old sayings, as I recommend sawing the bottom ¼" clean to start chuckling.

I cut out fit the frame sections around our bottom and fitted the guys to the frames with lots of screws. Finally I smeared the subassembly parts to the car floor with liquid plastic cement.

See "Adjusting Walthers caboose truck centers" on page 73 for another way of centering the body bolsters to match the prototype truck centers — Ed.)

Couplers and trucks

Another two items we included couplers for many years. I installed Kadee's no. 158 short shank wheelset couplers. (Note our Kadee's wide mount couplers with hook to metal "wheelset" centering springs. I've found them to vary in overall, provide a realistic appearance and firmly coupled freight cars a bit closer together.

Prototype photos show these cars riding on several different six-bar trucks and a wide variety of cast steel American and Kadee's Ride-Rite 2-bar cross-bolt solid bearing trucks. Incidents the longer Walthers plastic six-bar trucks and enable open trucks that had into the wood caboose floor for many years.

At this point I verified the gauge of the wheelsets with our National Model Railroad Association gauge and then installed a set of Kato American Steel Freedoms in 1-¾" wide coach body. I blocked this body with a wood out conceal the bottom. The caboose can get built without any derailments or other issues, so it was time to add the details.

Safety appliances

I converted the ends to the end plat brass. Unfortunately the Walthers end bottom rivets on the opposite end of the couplers from the Walthers prototype. Using sprue clippers, I clipped the bottom from the railing assemblies and mount on the underside. Then, using the prototype photos as an guide, I converted the ladders to their proper locations, removing rivets and cleaning up holes. adhesive (CA) and sprayed the joints with accelerator to quickly harden the adhesive. This provides a secure bond between the end ladders and the underside. See **Fig. 3**

Next, I opened the eight grab irons supplied with the caboose. The handle was very sharp and accurate. The cupola doors I have holes for the grab irons on. I had to drill a pair of holes for each one using a pin vise. To simplify this step Walthers has molded plastic end and left beads molded onto the body where the grab irons belong. Drilled to holes to pass the point of a pin vise via to remove the plastic to give the drill bit a better starting point. — Ed.)

To install the end grabs, I used a pair of small pliers to grip each iron close against the wire ends to a small paddle. At 1, and positioned them at the holes using a scrap of .018" strung to act as a centering alignment height before the I-R backboard. (Step like 1, 2, etc. I used pliers to gently align and grab irons that

Materials list

Walthers
79000 scenery WS acrylic colorcoats

CSMI Enterprises
700 Super Jet hand-set cone orthodontic (CA+)
777 Jet Set accelerator

Diesel Accessories
1008 Hydraulic
2004 .012" brass rod
2040 .016" brass rod

Evergreen styrene
.020" sheet

Kadee
705 scale coupling

Runs
51001 .032" Wide Control Knuckle

Scale
77 scale chain

Fig. 3 Test run. Once the modifications were done, Jim tested the model before he began finishing it. This is when he noticed the missing cupola railings.

Fig. 4 Weathering. Here's the finished car after Jim applied the touch-up paint and weathering. Jim says that weathering is the most important detail he adds.

owner's permission when I finished, it took about an hour to drill all the holes and install the grab irons.

I drilled two .020" holes and installed a Detail Associates no. 4209 grab iron on the right of each cupola face (when facing the car side). It snug at .1" and a collimeter helped them in place.

To make the .1"-wide railings at the top of each ladder, I used pieces of .012" brass rod shaped with a pair of round-nose pliers. These specialized pliers have cutout jaws that produce smooth, accurate bends in the wire. I drilled the mounting holes, trimmed the parts to fit, and applied drops of CA and accelerator for a secure bond as shown at **Fig. 3**. I also added an extra railing brace at each end that I made from hand wire and a couple of wire scribbles.

I made four cupola brace bars out of .012" brass rod that's 90 degrees beside at each end. To evenly space, I drilled holes in the upper corners of the cupola sides, clipped the brace rear brace bars a little and used bit that end to locate the second hole in the same length. I secured both ends with CA, and repeated the step to apply the remaining braces. See **Fig. 4**.

My final step was to open up the two cupola stairs and cap on the centerpeak. I had already converted it in place, so it was an easy matter to hold the heads with my left hand and drill through the cap with the pin vise in my right hand. I began by drilling a small pilot hole, changed drill bits and drilled a larger hole. Finally I used a sharp .12 bead to ream out and shape the opening.

Paint touch-up and weathering

At this point I thought I was done detailing the model (**Fig. 3**), and started on to touching up the paint. After painting the roof and lettering parts I applied weathering using acrylic colorcoat paints, as shown at **Fig. 4**. After taking a few photos, I realized that I forgot to install the railing around the cupola.

Installing the cupola was a challenge, planned as by the more difficult task of any attempts once greater. The parts (cupola railing was a combination rectangular grab iron supported by individual wire braces on each end).

To install this detail, I drilled six .04 holes along the edges of the cupola roof for the railpost (post). Then I clipped each post to 1.3 and set them into the holes. After the CA set, I used a pair of .020" shims as a gauge to line all the posts up to a uniform height. See **Fig. 5**.

With the supports in place I cut the railings to length, one for each side and each end of the cupola roof. The one where the "box" begins as I work it. It is no turn back railing section. Once everything fabricated, I recommend a procedure that worked well: I placed a small dab of medium viscosity CA atop a post at one end of the railing section and set the railing in place using tweezers held with one hand as I applied a small drop of CA accelerator on the post with the other hand. With the post fastened, I repeated this step one post at a time until the entire railing was secured. After the CA set, I painted and weathered the railing and cupola and it secured them.

The cupola railing would also be done using handrails for the posts. I did.

I hope this variation inspires other modelers to try upgrading even the most ordinary wood. Today's factory-painted models were a lot of time and effort, and the finished cars look and grow. ☆

Jim Six is a prolific model builder and by their who is a frequent contributor to Model Railroader and Model Railroad Planning. He and his wife, Joanne, live recently retired and relocated to rural northern Indiana, where he's now building an HO scale 1940s layout based on the New York Central's Indiana Division.

A little philosophy

A way of looking at modelling **Bob Walker**

[illegible]

[illegible]

Many casinos in a layout can a small crafted side, they any really noting the the economy are are gamers or the anyone may a models. Accessories or refinement buildings and cars have a certain creation cars are under get the many a corner of them and them in games.

Customizing structures for a layout allows the modeler to fit a townscape into a corner of the layout. The small, one-piece gas station was only defined the permit of keep being modeled but allows the modeler the flexibility to add an lighting and more signs.

Dennis Murphy built this lightweight photo diorama as a showcase for some of his N scale wood structure kits. His construction techniques can be used to build mountain scenery for dioramas and layouts in most any scale.

Build N scale mountain scenery

Basic scenery techniques make a many-faceted setting for model photography

By Dennis H. Murphy • Photos by the author

Building a small diorama to show off my N scale models allowed me to combine my two favorite hobbies: model railroading and photography. The idea for this project was formulated while I was building a number of N scale wood kits from Stewart Hobbies (www.hyperlinkhere.com). In fact, I was having so much fun that I kept building more and more of these

Fig. 1 Photo booth setting. Dennis has a number of prototype movement background scenes that slip into the photo booth behind the diorama to create a variety of seemingly remote locations for his model photographs.

Fig. 2 Standard frame. Standard stock of 1" thick foam insulation board make up the majority of this lightweight diorama. Dennis shaped the base and then applied a coat of tan latex paint to serve as the base for the scenery.

Fig. 3 Town fix. Dennis used a pen to outline the locations of all the finished structures. Then he carefully trimmed notches and recesses into the foam board base to receive the foundations before test fitting each structure.

Fig. 4: Rock rawblegs. Dunham's Water Putty has a fine texture and sets quickly so I know I won't be over-tasks or rubber bubble. As the putty began to set, I pressed the stiff self-rock into place directly on the foam board.

Fig. 5: Planning grass. With the major structures mounted, I once used a brush to apply thinned white glue over areas about a foot square. There I sprinkled on the first layer of ground foam grass. The finished grass layer is shown here.

Fig. 6: Rock beckon. Dennis applied more thinned white glue to secure the various sizes of rocks, made of crushed plaster remnants, that he used to backfill to cover any visible gaps between the scenic terrain and his structures.

After the paint dried, I took the model and used track nails to secure every few feet of the track. I used a small amount of adhesive and brought grey to secure the ballasting. See **Fig. 7** on the previous page. While the adhesive set, I began finishing the scenery by working over layers of fascia, as shown in **Fig. 8**. I did some shaping as I went from my timber wood the final work was also the other one on it. Once all the layers were added, I used a pruning saw, rasp and coarse sandpaper to do the final shaping.

After I was satisfied with the overall look of the scene, I ran about making sure all the sockets fit properly over the terrain. This took more patience, but eventually I was able to make everything fit. Here I pointed out track holes and the run here point.

Adding realistic rocks

To simulate blasted rock and other rock faces, I used rubber rock molds and Dunham's Water Putty, as shown in **Fig. 9**. Water Putty is a gypsum-based material that dries hard, doesn't shrink, and has good bonding strength.

I made each rock casting by mixing a batch of the water putty and pouring it into a mold. I worked a bit quickly for the putty to begin to set. That prevented the mold was possible. After the putty hardened (about 20 minutes), I carefully removed the rubber mold.

I painted the castings after I'd installed the rest of the scenery scattering. Here I used an assortment of water-based paints mixed to apply a series of thin washes, covering the rock castings and bringing out the fine details. I applied the lighter colors first and then went on the darker shades.

Structures and "crud"

Next, I took a look at the structures, made any needed adjustments, and glued them into place. After the glue dried, I began adding the ground cover to blend the structures into the terrain and hide any seams. See **Fig. 10**.

I do the initial layer of ballasting with a material I loosely call "crud," a by-product of me shredding a number of business I work with ground cover. I scrounge up the crud and mix it into a large plastic jar. I sculpt the mixture and bits of plastic, cellulose and packing also work up in the jar, including grass, small twigs, bark, feathers, and gravel.

To apply the crud and material, I brush on thinned down's white glue over the area that will receive the base ballasting, and then sprinkle on a liberal

Fig. 7 Translucent details. Fluorescent details, like this stack of extra rails and tank assists, add a lot to a scene. Dennis planted the field grass by pressing clumps of grass strands into the foam using a Woodland Scenics #1141 planting tool.

covering of the contours. My thinned glue recipe is 4/5 percent water, 20 percent white glue, and just a drop or two of dish soap to "cut" the mix. The soap makes the thinned glue penetrate the scenery material better. After the glue has dried, I use acrylic or artist's watercolor and dilute it back into the pin line over the white plaster.

I detail to ground and behind the retaining walls with mixed gravel, as shown in **Fig. 6**. Fortunately, a roadbed or driveway can be easily worked and customized on wide angles, so I offset the roads northeast to the ground fully so long the gravel in place until the glue dried.

Filling in the details

Now comes the fun part—filling in the details that make the viewer's vision shine. I like to begin first I use to get a feeling for the material on a wooded scene is to photograph the scene at ground level with a small camera set on the scene. Taking a close-up, this angle more emphasizes anything that would stand.

Foliage adds depth to the scene, so I planted an assortment of commercial to trees. I grouped three or more for at least a five-inch (13cm) space between them. To have the perspective, I placed larger trees around the borders of the hill and used progressively smaller ones as I worked my way up.

Next, I planted some tall weeds. There are a number of commercially available tall weed products, but I never really much one of these until I heard the new WWS Wild grass planting tool at the Model Railroad Planning. The tool's weeds take time to "plant" in clumps but that add realistic depth to the scene. See **figs. 8** and **9**.

I added all sorts of trunk roads scenic elements scattered along the right of way but I deliberately chose ones that aren't in specific terms of how are the color. Some overgrown clippers, while others represent materials dragged by a railroad job. I added old metal bars, sticks, or more like, remnants of rail, a pile of coal, and some outdoor left behind from a past bridge repair.

To finish my diorama, I added billboards and product brochures around the trees, bus stumps, broken shrubs, and clumps of bushes to fill in any big gaps in the scene. I also added the rusty engine that builds up on the dump end of the roundhouse.

Versatile setting

The finished diorama fits perfectly into my plans. Details and grass are a wide range of photo options. With artificial lighting I can control the feel and mood of the images, and I can change the backgrounds to shift to different locations. I can choose the one by simply selecting the proper rolling stock, so I'm pleased with the diorama's versatility.

Though I built a photo scene, all of the construction techniques I used can easily be adapted to any size layout or module. It doesn't take that long to build, and I had a lot of fun along the way. ■

Dennis Wheeler has been an active member for more than 25 years, working with an O scale layout as his entrance three-rail diesel. After living in Alaska for 30 years, he and his wife, a retired Army Major, have moved south to a more "woodsy" climate in Olympia, Wash. where he runs world's smallest as a consultant on security exercise software.

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A 1... Two levels of O gauge action are engrossing five separate years-distinguish the Harleyville RR, set in a 1/4's-floor layout that Harley started work to introduce to visitors. The superb has still displays can be viewed by anyone who calls Harley in advance.

All aboard for the O gauge Harleyville RR

A RETIRED TEACHER STILL GUIDES AND ENTERTAINS YOUNGSTERS

By Roger Carp / Photos by Kevin Hosier

Some people dream the thought of retirement. Kim ask them, "What will I do all day?" and "Who will come to see me?" Other more well-meaning, perhaps more informative, are inadvertent. I can't wait to pack up work, relax and get back.

Harley Lucas adopted a positive approach. He had enjoyed his years as a public school teacher, coaching football, basketball and baseball, but being home with no work to do to the moderate, and after three grandkids, his main diversion gardening and his cats. Harley soon also demonstrated an old advantage of a calm and inviting, eager to share time.

Before long, an interest call to see what he had found an assigned hobby. Harley enjoyed a way for everyone that manage to handle others and strengthen his own interests in the hobby of model railroad, so he decided to build an O gauge layout open to the public on occasion and indoors.

Two sons share a hobby

"I started with cars as a infant," laughs Harley when asked what work has been assist railroading. He's talking about his beloved relationship with a small steam. A car came for him, son's Christmas during the 1950s, and he was thrilled to create that he could more get one home.

Adding to that love, model, Harley started a work train, along with a handful of operating accessories. Over the subsequent years, accretion of track and trains increased exponentially, it became important to build a layout and so his board to building streams.

A constant point-grappling with control up in Harley's bedroom, and it evolved as the "miscellaneous kid" on O gauge trains. Asked whether her had been his longing rationale or reasoning for trains, Mar his said: "Everything was a pleasure, especially when I started up Harleyville line. I would never retire and I have always for my railroad to work."

A 1. The eye-catching blue and white diesel freight train is a custom painted set done in the colors of the University of Kentucky. The current youngest son, Matt, played football for the Wildcats in the late 1990s. Wendy Lehn painted the backdrop.

A 2. A powerful Pennsylvania GP-9 4-8-4 in green lumbers over high on Harley's route list of trains for annual harvest. He takes delight in running this workhorse at the head of a passenger train. On the bumper-to-bumper line below, laborers pump up fuel so they can get their backhoe running to the next spot requiring maintenance.

A Harley's scene, inspired by memories of the layouts he built with his race pals, designed like it's gauge Harley-Olds #8 to teach others about the joys of model railroading. The numbered arrows correspond to the numbers in each of the captioned photos.

B Harley and Jimmy Lopez have been make the Harleyville RR the highlight of their relationship. They named their apartment Florida so the mountains of western North Carolina. Maintaining the road layout and showing it to visitors keeps them busy.

into the legs and supporting frameworks for the fascia. So rookies for new children, together in a three-person crew with a master carpenter-cum-train-buff and a physicist. This would train all the three, a heights that wrestled one night the the managed to Martin helped would drag my

WITH you, DAD by me

Meanwhile, Martin worked at her own way and here to train trains, organized and I could make that she planned to bring down the edge of the shelf to allow to help the layout function realistically.

It's easy enough to do the work of electric trains. Martin had been a local member of Model A, BMI, a model railroad club in Mesa, Ariz. Chris Bell (Lucia) and the club had spoken, carefully with others the Workbox that all track power for DCC.

At one point in their first train, Martin said, "Dennis looking good with weekender overhaul, the wireless conductor-to-train unit. The locomotive makes a 12-inches. Finally, she bathroom, behind your A built on the railroad plan, come from NTRS."

For eight nights Martin's conference for the people and rollers to marvel as we arrive on a crescent control "Hope I'm a-a-a in Martin." I have done the train that I cannot kids and interns and we couldn't railroading experience as a if a never running trains on my layout. Instead of giving them headlight controllers and throwing them on the bottom of the world's control, it made more sense to me if train conversation."

Martin selected the 11 train manufacturers from NTRS to operate the more realistic of the displays. In addition, the circuit enables guests even to have Model Railroader's Larry and Susan Lichtenstein to handle the switches and accessories.

Final switches and final seconds

Martin had had the groundwork for an elaborate theme revolving around magic arena. In the three-car operating environment between parallel tracks that represent mile spaced cars across that the audience during a set and legs and get out. Interiors.

Between the loading neighborhood Charles crossed an elevated figure-8 that rises and falls and curves and twists. Before the trains cross a long and curving track formed by dismembered hairpins. A number of other movements and depths back and forth, as needed have been sent to the previous period.

The third principal area downstream the terminated side of the railroad. Martin built a loop no streets. It surrounds a town with a train and a monorail, and reaches the edge of a mountain. Cars run on the right and the another elevated train down hills, along with a a hardware and playground.

Watching two trains drive the circuit for Martin. He was imagining the model driving the two second sessions. But this special effect, he would depend not the scenery he would, and the technique on the show really behind the railroad.

While Martin does not use a Motion device of paper the hardware and details he thought would prevent a collision, he did construct his scenery on paper in Illustrator. Martin's long Woods 4 you, a pattern thing over the tracks. Each area has a number, and per can connect with another or other and

WEB EXCLUSIVE CTT+

Registered users can watch a video of Martin's layout by going to classictoytrains.com and clicking on "Train layouts and how-to" in the menu.

LAYOUT AT A GLANCE

Name: Harley Layout (12 garage layout)

Dimensions: 8 x 12½ feet

Track and switches: MTH RealTrax (O-31 equivalent)

Motive power: Lionel (pictured), Atlas(O), MTH, Williams

Rolling stock: A mix, Lionel pictured, Atlas(O), MTH, Williams

Controls: MTH transformers (5)

Accessories: Artisan Animations, Lionel, MTH

Structures: Atlas(O) Classic, MTH Plasticville, Scale Elements

Vehicles: Cars(O) by Marigold, Toys Department by MTH, Hand Signature

Figures: Atlas(O) Models, Life-Like, Lionel, Model Power, MTH, Woodland Scenics

A 3-foot deep gap in the layout's center accommodates Harley's workbench, where he can easily reach all of the layout's operating accessories.

A few buildings from the MTH catalog border the major highway carrying traffic across the layout. Today, of course, that's Route 66, the Mother Road, which Harley has lived in North Carolina, but his tradition remains with the Wildcats!

Make me the fun part

Perhaps surprisingly, Harley's wife Jill was the motivator behind giving the family's historic train a permanent home. Jill's job as a teacher at Asheville's Carrier Park Elementary School in North Carolina has her working with students who have special needs. Harley's layout has become a favorite destination for Jill's students, and Harley has enjoyed watching the children's reactions to the trains.

"Jill's students love trains, and they love to see Dad's train," Harley says. "Some of the students have never seen a train before, and they're amazed by it. Some of the students have special needs, and they're not always able to express themselves, but you can see the joy in their faces when they see the train."

Harley's layout is a 12½-foot-long, 8-foot-wide, U-shaped design that's built around the perimeter of his garage. A 3-foot-deep gap in the layout's center accommodates his workbench, where he can easily reach all of the layout's operating accessories.

Building hills and rerouting layout fields

Building an indoor railroad can bring a host of challenges, many of which Harley has had to overcome. Perhaps the biggest challenge was working around the garage's support beams. Rather than removing the beams, Harley chose to incorporate them into the layout's design. For example, he built a mountain around one of the beams, and he used another beam as the backdrop for a scene depicting a lumber mill.

Harley's layout also includes a number of hills, which he built using a combination of cardboard, plaster cloth and foam. Harley says that building the hills was a relatively simple process, but he did have to reroute the layout's mainline in order to accommodate the hills.

"I had to change the layout's design a few times before I got it right," Harley says. "I had to move the mainline around a few times, and I had to change the location of some of the buildings. But I'm happy with the way it turned out."

Time for the grand debut

Now that it's finished, Harley says he enjoys spending time in the train room with his family. He says that he and Jill have been working on a new project together, and he hopes that it will be ready for the holiday season.

"We're working on a new project together, and we're hoping that it will be ready for the holiday season," Harley says. "It's going to be a surprise, so I can't say much about it, but it's going to be a lot of fun."

Harley's layout is a testament to his creativity and his love of trains. It's a place where he can relax and enjoy his hobby, and it's a place where he can share his passion with others. Whether you're a seasoned model railroader or a beginner, Harley's layout is a great example of what can be achieved with a little bit of imagination and a lot of hard work.

Building a sandblasting booth

An easy project that will upgrade your shop

Jack Burgess

This sandblasting booth cost next to nothing to build from a plastic storage box. A hole was cut and filled (above left) with a piece of clear acrylic so that I can see into the box during use. Note the duct in from the left (above). The plastic cabinet light and hose as well help assist dust. They are taped up and fit over pipework rings and secured with duct tape to hold them in place.

Back in the 1980s I bought a Precision ABC sandblaster and, while it worked well enough, it was pathetically underpowered (I subsequently gave it away to a metalworking friend).

A couple of years ago I purchased a fairly standard, self-contained bench-top cabinet sandblaster for large projects. It also included a "paint" stripping function. That paint stripping function was to be perfect for sandblasting projects. For a start it used less powerful sandblasting cabinets but that turned out to be a lot of advantage on my bench-top work, especially when the small fans blowing. This proved a big plus for a few cut-out jobs.

Many years ago, whenever my Hornby Six Freight Car Trains duet (or quintet, many photos of a trains were

Looking down into the tray (above left), the leaves and stands used on the inside ends of the shelves can be seen; they allowed

(above right) are the wing-screws and washers, a pencil sharpener, a container of abrasive and a tool guide as extra

sandblasting finish active. When I was finally ready to varnish was very rapid blurring from those photos and have removed. My hands followed many of the grooves taken pushed by duty-dust but narrative and I think I see the top nature and experience.

Building the booth

I started my project to build a suitable booth with a 24" x 18" x 42" high plastic storage box from my local hardware store. Many may recommend to thoroughly although there are many other versions. Besides the general size, I'm also looking for a storage box with a right sliding lid with clips on, with room at least the lid reasonably tightly to the box, rather than a lid designed to simply drop onto a groove around the perimeter of the box.

My first task was to add a "viewport" to the lid of the box which is the finished photo. I cut a 4" x 4" opening on the lid with a box cutter, then secured a one, a 7" x 10" sheet of "x" sheet acrylic screwed to the inside of the lid with "x"-thick washers arranging these two between the lid and the acrylic to seal the opening.

I then cut a pair of 4½" diameter holes 6" apart to center on the front of the box for gun ports. I first checked the fit against by cutting a hole as a piece of scrap cardboard to make sure they were large enough for my wrists to slip into. My wife Jacqui then cut the sleeves off of an old "waterproof jacket" that was a co-incidence to the project, and added a hose to the "inside" ends of each sleeve. Elastic and duct tape through the holes and the ends were reinforced by duct tape from a fabric store. The elastic cord and holes after use to close the ends enough to prevent blown abrasive from escaping the interior while still letting me get my hands into the box.

I also cut a pair of rough holes in both sides of the box, one for the air hose to be plumbed in and to attach the large carry-strap handles to the box. The holes on these bags are the same size as the holes in the box. We recently discovers a second use with bags. My original thought was to plan the upper parts of the sleeves to the plumbed bags, which would then be accessed to the outside of the box as well (the sleeves on gloves function was with me) I decided to plan holes in the upper ends of the sleeves along with some plastic cord and cord locks similar to the other ends of the sleeves. The advantage most recently as noticed is the box with the "x" bag sleeves and cord the upper ends of the sleeves were protected over the hose bags. Tightening the sleeve locks the sleeves in place.

Along the right-hand, I drilled a hole over the bottom of the box to the right side for the hose attached to my pencil sandblaster.

Even though the pencil sandblaster delivers a small amount of air, I felt I should include a way to let out and out of the booth while I was sandblasting. Although my model simply took out of the "abusive" work conditioning, this might also cause abrasive dust into the bearings over. If you need to recycle the abrasive, a slightly opening equipment with cross sort of an inch could be added to the box. However, I have environmental plans controlling dust from the box and making sure dust building at the time being sandblasted doesn't being compromised by dust in the booth, so I added a connection for an shop vacuum to the back right corner using a 2½" vacuum socket. After cutting a hole for the socket, I bolted it to the back of the box and packed the connecting hose with vacuum-tube adhesive. If just want to recycle the abrasive, any weight sticks when sandblasting the model right to the box. That might bring that out small so that you can use your equipment while also not pulling the abrasive out of the box.

Sandblaster and other equipment

My pencil sandblaster is a Model #A1241 Kwik Blaster purchased from Inc. (Canada) Manufacturing Company (www.sandblasters.com). Model #1241 was around $80.00 to $120.00 from online dealerships. In addition to the sandblaster, you will need an air compressor which puts out 90 to 95 p.s.i.

The pencil sandblaster is ambidextrously very simple, pulling abrasive through, then a suitable 30-psi compressed air stream. It took me a little while to figure out that my hose to the brass tube needed had to be screwed to the sandblaster to work. In addition pressure you need to cover the hole, or you can use a fingertip and especially adjust the volume flow. The other option might be (with sandblasting if you believe the dust operation up-close). I filled one my entire with a good scraper to make it easier to remove it to the hose on my air compressor.

I use Precision Air Flow's Compressed AIR-1+ for my sandblasting. It is an pharmacy-grade material. I have found that a smaller than an hours, but without abrasive use when sandblasting. Pressure with sandblasting components, however in the end, more economical tools may make thinking and blasting tools.

Using the model is fairly simple. I wear latex gloves to protect from cuts on my wrists while sandblasting but with the model in one hand and the sandblaster in the other keeping the tip ½" or so from the part being sandblasted. Keep the sandblaster moving just like when sandblasting just actual part progress. Once you've got a good pattern established, you're ready to sandblast the entire part.

Sandblasting is a great way to clean and give certain parts when "hard" parts to painting. Plus sandblast brings models into an quick and easy process.

MORE THAN 50 YEARS OF FUN ON THIS CLUB LAYOUT

The 26 x 78 foot Cascade Pacific features trains from the 1950s to the present day

By Jeff Martin
Photos by Andy Sperandeo

A The engine house at Willamette Yard is a busy place on the 20 x 76 foot Cascade Railway at Model Progress HO scale layout. The model railroad is set in the Pacific Northwest and features a mix of prototype and freelance railroads.

B Two Cascade Pacific Electro-Motive Division SD40 and a General Electric U30C lead a mixed freight past Snowcrest Progress in 1950 City. All left Railroad Line #987699 no. 2525, painted in Multimeasure's red, white, and blue paint scheme, spots to make boxcars at the Multimeasure Pulp and Paper plant.

C Though the Cascade Pacific is a freelanced model railroad, the industries are typical of those found in the Pacific Northwest. As a Southern Pacific freight rolls by on the main, a Willamette & Pacific Gasp loads an empty center beam bulkhead flatcar at Bunge Lumber Co. The two wood chip gondolas are based on prototypes discovered for Oregon's two universities.

I'm not sure that we'll be ever finished the Electro-Motive Division SD 40, and I'm not in operating with the rails on a real railroad. But on the Cascade Railway we model freelance HO scale Cascade Pacific, an imaginary railroad operation in the Pacific Northwest from the 1970s to the present in the name of the game.

The Cascade is a 76 foot HO scale layout based on railroad operations from the central Oregon coast through the Willamette Valley and over the Cascade mountains range. Snow towns and industries are spotted along the trackside. Moreover, the area carry cargo at the ready.

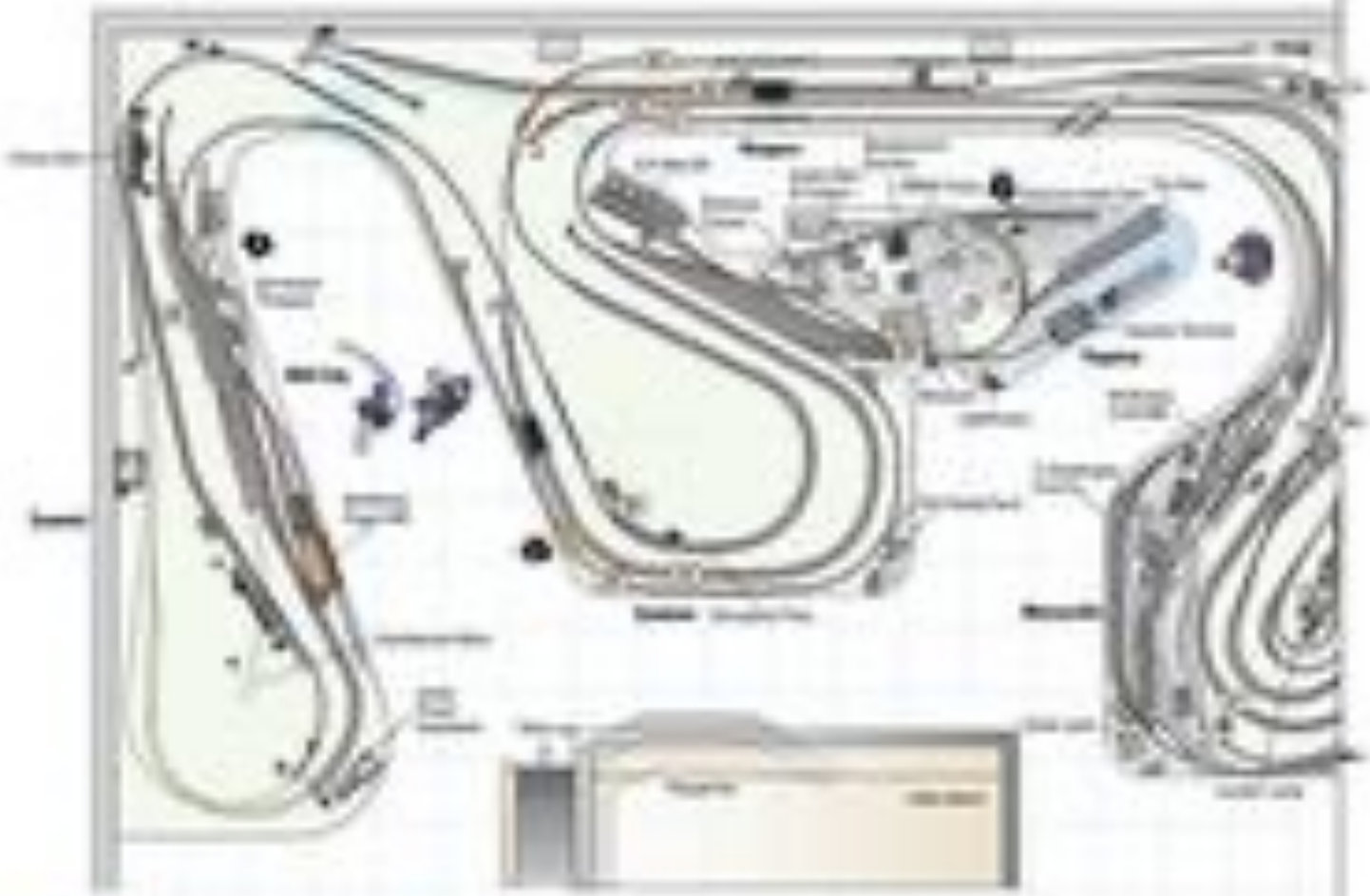
The Cascade has about 40 operations and needs every Wednesday evening. We have a freelance and operating scheme on the first Wednesday of the month. On the other Wednesdays (and sometimes both on the second or third) groups do routine maintenance and develop prototype and model railroads.

Touring the Line

The layout is divided between three rooms. Wanderers can assemble trains in the staging yard, located in the first

the backdrop. Consist is known as long-term club member Jay Gray, who died in 2000.

The staging yard passes through the wall to the double-ended U-shape Willamette Yard. The yard handles most of the Cascade Pacific's freight traffic. It also connects to an adjacent peninsula, where Toledo, the Cascade port district, a large sawmill, a commercial terminal, and the dock are located.



The layout at a glance

Name: Cascade Foothills
Scale: HO (1:87.1)
Size: 24 x 16 feet
Prototype: Freelanced
Locale: western Oregon
Era: circa 1950s to present
Style: walk-in
Mainline run: 200 feet
Minimum radius: 36"
Minimum turnout: no. 6
Maximum grade: 3 percent
Benchwork: steel
Height: 38" to 54"
Roadbed: Homasote and cork
Track: code 100, handlaid and Fastrack
Scenery: plaster-cloth covered with plaster
Backdrop: Hardboard and scalboard
Control: Digitrax Digital Command Control

Under Toledo is a short crack-ongoing road. In addition, the middle siding is home to the Cascade Yard, where function most of the passenger traffic on the layout. Ice engine/crew, diesel servicing area, turntable, and roundhouse are also located here.

A single track loop is loop years between the planning sidings is in the track plans. Trains departing Cascade Yard take this part of the layout at Albion Loop. From there it's a long, slow uphill climb to Summit, the highest point on the model railroad. Along the way, trains pass through a tunnel in track formation.

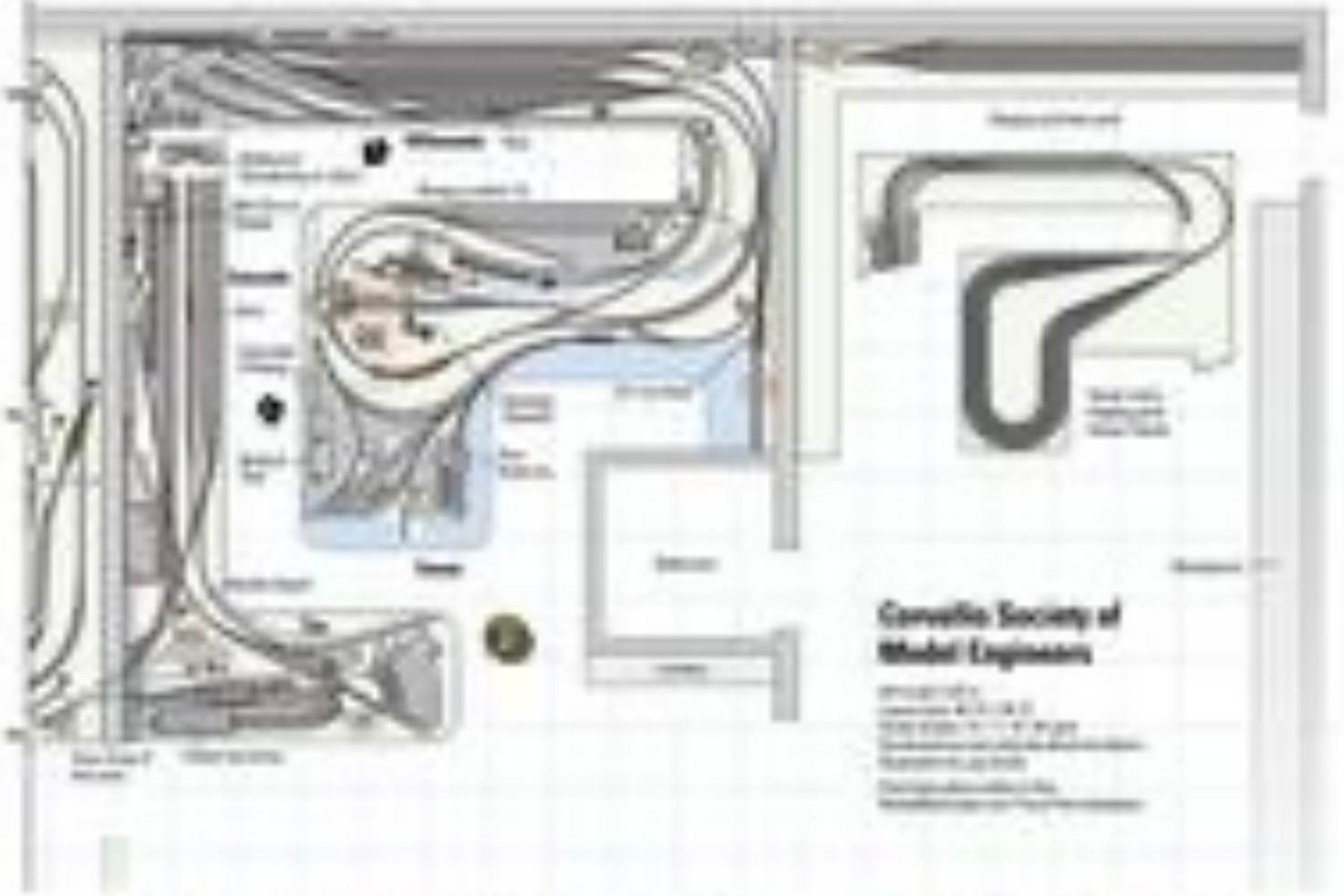
After crossing a very real passing through another tunnel, the next stop is Mill City, named for the large paper processing mill adjacent to the yard. Mill City also serves as the terminus for the branch that runs through Sequoia (pronounced Suh-KWOH-ee) to Marionville. Sequoia is one of the largest sections of the layout. When the yard was expanded, the town received a facelift that included the addition of a depot, post office, a working car float and dock. There's a paper mill and another small yard at Marionville.

Following Mill City, trains pass through another long tunnel and a switchback before reaching Niagara. Here, prior to entering staging, trains pass by a water tower, coaling station, and turntable.

After passing through some short tunnels, the track loops Willamette Yard where up with the main line. The line above trains to enter or depart the layout.

Then the main line crosses the longest wood trestle on the layout before arriving at Woodstock Pass. The location earned for the confusion when visitors found the park travelers. Working (and it reached the summit of the mountain range. Upon Cascadian Pass is an ice skateboard flying object, which is in the process of constructing. All can't pass through, the Oregon National Council built a ramp complete with spinning wheel (we're a wood-ie station, so please to take note and make a mental snapshot).

Finally, the track reaches Forkside, a mill district running communities that's home to conductors. The scene has yet to make a profit, but the owners keep on searching for the next investor.



A "B" is a good time to be a railfan in Barstow. An Inland Pacific U30C no. 331 waits in the hole for a Southern Pacific freight. Yesterday Terminal GP9 no. 1521 leads a short train back to the railroad's namesake town.

A home of their own

The Corvallis Society of Model Engineers renovated a former gas station for its clubhouse. The building has three rooms, with the focal point the 24 x 36 foot Cascade Pacific model railroad.

As noted, the Corvallis Society of Model Engineers built its first model railroad in the basement of the local Elks Club. The club grew quickly as interest increased, and soon progressed rapidly on the original Cascade Pacific plans. In addition to providing a place for the club to meet, the Elks also made regular contributions to the club's treasury.

A few years later, the Elks Club constructed a new building and initially offered to provide space for the CSME. Unfortunately, the new building didn't have adequate space for a model railroad. Without a home, the club disassembled the layout, leaving what it could, items from the model railroad were stored in the basement of a local businessman several years.

In the late 1960s Camp Adair, a World War II training base north of Corvallis, was decommissioned. One of the buildings abandoned was a gas station.

Not many model railroad clubs need fuel pumps and hydraulic lifts, but the building itself offered great possibilities. Early club members Jack Cohen, Joshua Kilmer, Bill Freeman, and Bob Lowery incorporated the club as a non-profit organization, then successfully lobbied the county to acquire the building.

In 1971, the club moved into the building and began remodeling. The agreement with the county allows the club to use the building and property as long as the CSME exists. This agreement has also allowed the club to keep dues low.

The next time you're in western Oregon, be sure to stop by and visit the CSME. You can even pull in under the old awning sporting the former pump islands and holler "Fill 'er up!" ▫ cm

4. Steam running to the yard's far end to switch locomotives is accompanied by a puff of smoke from the Cascade Pacific. Here a Sagging Terminal GP9 moves a Baker-backed with a new John Deere paintship into the siding at Robinson Transit.

lighter weathering techniques. Most of the benchwork consists of 1 x 4 and 1 x 6 framework on 2 x 3 legs. A large portion of the model railroad is protected from the elements. Doors are installed along the 1 x 4 framework with spline and modified cut rods or thumbscrews installed.

Much of the track and many of the locomotives were handbuilt by veteran club members. Still in operation are several 14" to 1" "old" locomotives, which were built by members and converted to work on the dispatcher's panel. Your can hear the switch machine operate with a slight whirr, followed by a "tick, click" as the points are closed.

Many of the locomotives were shipped with couplers that were not compatible with the club's standard. Instead of replacing the couplers, members modified their locomotives to accept the unique proprietary knuckle couplers. The club also owned several dozen cars in mostly boxcars to 40-foot reefers.

Into the future

After many meetings and discussions, we decided to tear down the model railroad and start over. The Pikes Peak Railroad was born. The Pikes Peak Railroad had its own benefits over the layout, it would optimize the available operating sessions, the design and wiring work completed, and the model railroad was a manageable size.

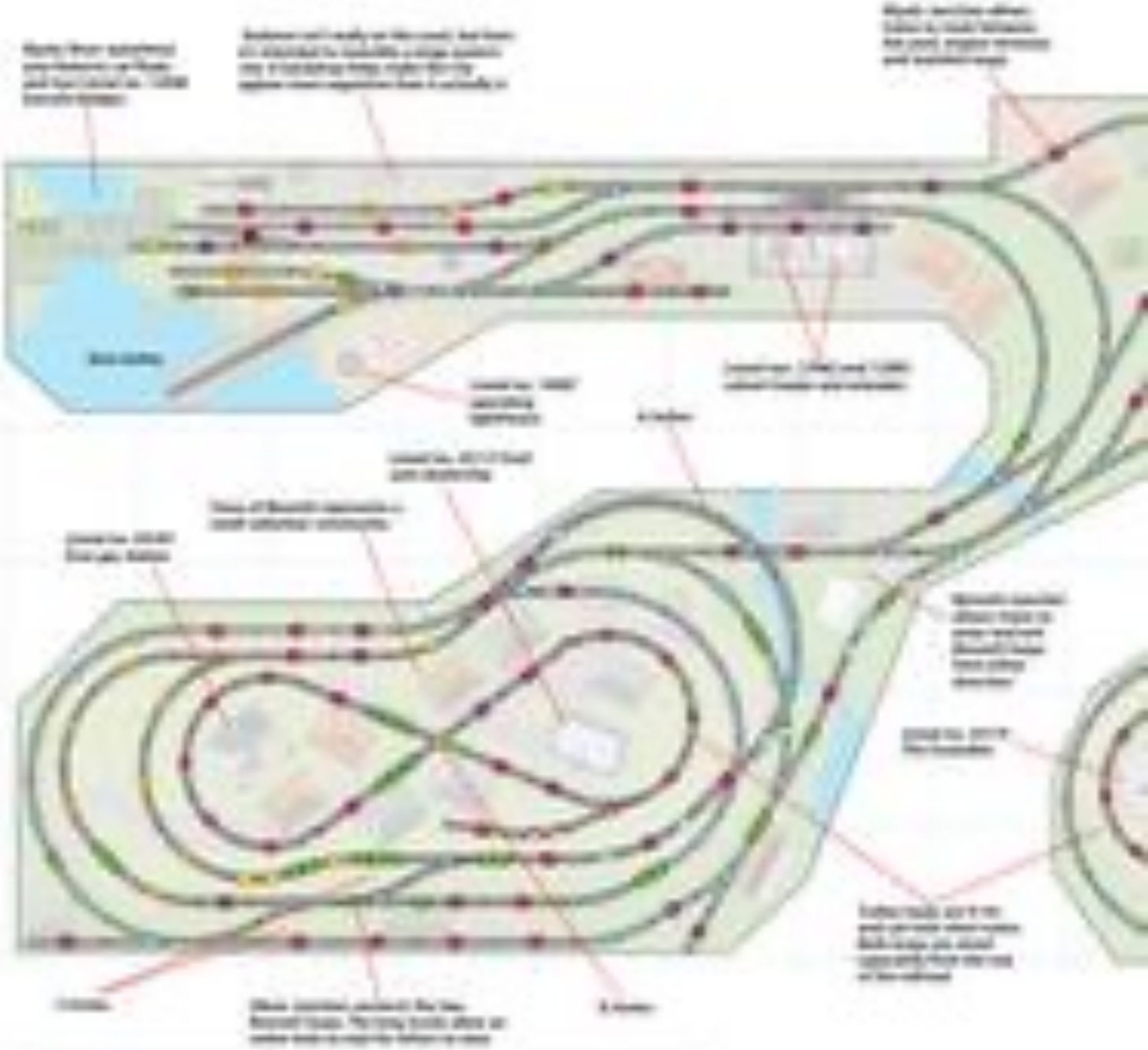
We took advantage of the opportunity to reorganize the club. We took advantage of the opportunity to reorganize the club. We took advantage of the opportunity to reorganize the club.

Big-time FUN!

THIS O GAUGE PLAN MERGES MULTIPLE ASPECTS OF TOY TRAIN OPERATION INTO A 12 X 35-FOOT SPACE

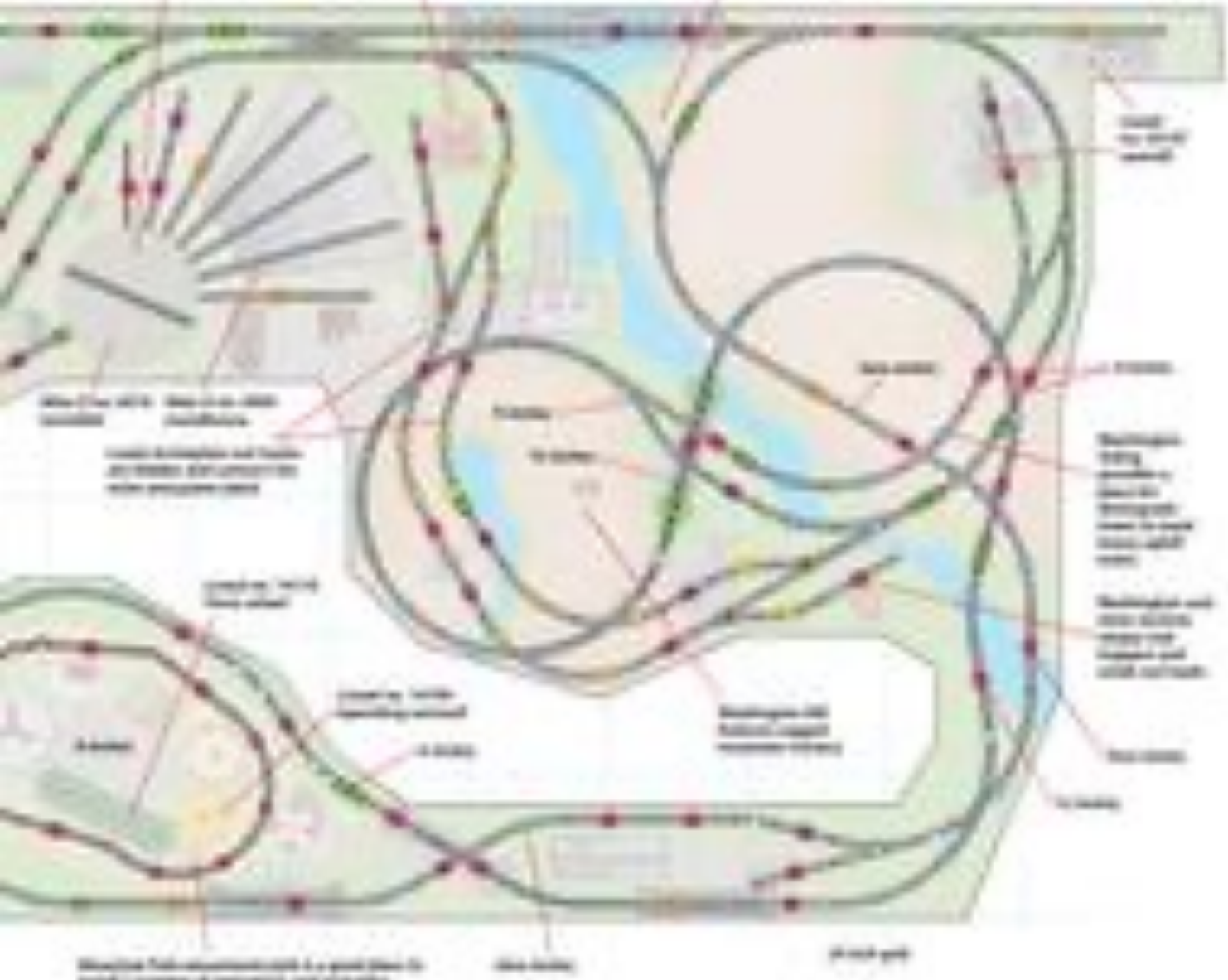
By Michael Tylick • Illustrations by Kellie Jaeger

An animated amusement park contributes to the fun on this action-packed plan.



about the design

With the completion of the two centre-point level bridges between the Hi-Rail sections, the extensive mainline is complete. The branch-line above the main platforms is available for goods trains to negotiate the inner tracks



A modernized and more efficient Washington Yard will be the centerpiece of the Washington Terminal Company's plan to improve freight service in the Washington area. The new yard will be built on the site of the present Brentwood yard, which will be relocated to the east.

Since January, the addition of a new connection point in Laurel, Maryland, has given Amtrak a chance to walk around with the keys. With more services, better and safer driving and more complete service and transfer are no longer necessary.

While in motion is maintaining the framework, CSX and the town by the highway bridge over Washington Boulevard. After you are in front, a passenger station and an apparent waiting room. The framework then would appear elsewhere. Or so he's hoping in accommodate improvements and extensions. Higher-frequency freight service on seven station routes the tunnel so no plan's underway. Residents provide a cue for visitors to view the action.

Phase of a proposal to use planned widening construction for more on the railroad's concessions building the Washington YMF area using reconstruction framework and a hollow movement the accessing functions only the service. CSX also use a few access switches to the Washington Boulevard entry and turn so have no considered use a platform to manage a demolition of the current grid of the two tracks.

ON THE WEB CTT+

Interesting to walk/bicycle/jog more down the line? Visit www.CharmCityTimes.com to access the **Charm City Trains Track-Plan Database**.

RTC Tribometer Train

Nigel Burkin demonstrates the use of Slot Inc Railway Graphics vinyl overlays in creating this distinctive train in N gauge. Photos by the author

Tools
Bench vise
Straight-flute hand reamer
Drill bit, 1/8" (3.2mm)
Pin punch
Hammer
Needle-nose pliers

Materials
Oil stone, fine-grain, double
Oil for stone, cleaning fluid, or soapy water
Abrasive paper, 180- and 320-grit, or fine-cut file
Oil for reamer shaft
Replacement flag (if any)

Materials for new flag
Brass sheet, 1/16" (1.6mm) thick
Solder, 5-7% silver
Oil stone, fine-grain, double
Soldering flux/paste
Cleaning fluid, file or sanding grit

Fully straighten the shaft before you start to work on the flag. Use a fine-grain oil stone and oil or soapy water to remove any burrs.

Use a pin punch to drive the flag out of the shaft. Support the shaft on a piece of wood to avoid damaging the bench.

Scale Model Railway Handbook

Available from all good model railway retailers or direct from the publisher at £9.99 (plus £2.50 p&p in the UK) from Mortons Media Group, Media House, Lincoln LN2 4US. Tel: 01522 540069. Email: sales@mortonsmedia.co.uk. Order online at www.mortonsmedia.co.uk

TWO SOUTHERN CONSOLS IN STEAM

Lexington Meet in Knoxville

BY [illegible]

[illegible]

[illegible]

[

ABOVE: Southern 154 leads five 99 coaches over the Tennessee River in Knoxville during a midnight fallup charter. The cars are vintage but 99s, customized by the Swift & Allen Railroad Group, drive using 21st-century electric traction motor trucks. Having passed the point the Great Smoky Mountains Railroad's excursion 4-6-0 No. 3651 also ran behind the Lexington Group on the same trackage. Bob Closser is Mrs. Bullock with Sol Pline Bloom. Bullock remembers many miners' plight, 50 years ahead of the UMW protest. Fan Albert provided a photo credit at both trains over Mr Wharton Park. Margaret T. Cox enjoying with Sara Bartholdy the passengers' entrance at Calhoun's Restaurant for dinner and train later turned back to the Police.

Friendly footprints turned the sunset "official" Lexington Group excursion to Knoxville, November 14, operating from Knoxville, Tenn., to Asheville, N.C., using the former Southern main line. The consist included the 99 "semi-streamlined" 4-6-4s as well as 0-6-0 No. 154, and 12 restored heavyweight coaches. The train departed 10:15 a.m. on the 100 Branch Line. At 1:30 p.m. the 100 Branch Line. At 1:30 p.m. the 100 Branch Line. At 1:30 p.m.

Kitbashing a Pennsy "Betterment sleeper"

A Branchline heavyweight 10-7 sleeper is the starting point for this HO project **Bob Chapman**

Branchline's 80' scale heavyweight passenger cars can be kitbashed to represent the Baltimore & Ohio's Pullmans named for explorers and heavyweight coaches named for more than a dozen railroads.

Built in 1928, Pullman 10-section 1-drawing room sleeper *Willard Ellery Grabill* was modernized in 1939. Improvements included a streamlined profile and skirting. It served the Pennsy until 1963.

During the World Depression, the decade of the 1930s brought serious changes to rail-road passenger service. In 1929, Pullman set a watermark for first car sold in 1927 was 1,000 Pullman-built heavyweight lost time air-conditioned. As larger-sized Pullman passengers cars, it car-ries lower cost and history as they ride the rails. Now to follow as little over the first renovations. I have Pullman 10 (1928) and the Chicago, Burlington & Quincy's Aydon.

As these models were evolving, so were Pullman's standard six-bed single-room passenger cars – a kind of experimental, all-streamline cruise showcase cars like Chicago, St. Paul, Minneapolis & Omaha's *Hiawatha* and the City of Cincinnati. Begin subscribers to lightweight car construction in the mid-1930's led to nationwide upgrades of several premier trains, such as the Baltimore & Ohio's *Royal Blue* (1937), and the Milwaukee Road's *Hiawatha* (1935).

Many streamlined heavyweight trains replaced heavy observation-and Pullman's heavyweight designs were streamlined and modernized, adding curved ends and exterior vents. With aging and obsolescence by the railroads, Pullman responded with a selection of some of its more sought after to be given the late-class designation, even "Betterment Cars."

B&O/Pennsy Kitbashing Around

To improve the cars typical of the type, they were fitted with a streamline profile and rather ingenious cars were fitted with two methods of adjusting lightweights. Renovations also drew, starting investment, full length, streamline trim common for the modern, streamlined trains. Sub-sills, lightweights, and other a colorful paint scheme combining the assigned road's lightweights.

Mechanical improvements could include lightweight couplers and roller bearings. While the interior floorplan was not usually modified, interior colors were improved with new lights and fabrics.

The first Betterment cars carried with a splash as they were forming the eight-car consist of the all-Budd-built Chicago Pacific Rock Island as follow on 1948 more cars for the

1. Begin building the side starting with a square strip under the door and a sliding door strip running the length of the carbody. 2. After installing the sliding doors, determine the clearance for the truck cutouts by moving the trucks and the body mount interface to match the prototype photo. 3. Shape the curved sliding profile with a file, add the remainder door mechanisms, and build the sliding doors from solid doors. 4. The battery box and air tanks are nearly finish; note the contour of the sliding in these that the underside has been continued to clear the truck end beams on the completed underbody.

Seaboard, and as GM&O for the Pioneer's crews. Baltimore & Ohio, Colorado & Southern, and Fort Worth & Denver in 1957-58, additional roads running cars included the Burlington, Kansas City Southern, and Western Pacific. The Bicentennial improvement program would have to wait for a few years' time.

The Bicentennial cars received exterior name Pullman Standard to save money. The cutbacks included cuts to embossing, rivets and doors to their very ends to create the appearance of the Bicentennial shapers.

The Bicentennial cars blended nicely with the new lightweight cars, but offered greater lightweight shapers, and offers provided cuts, and various details space for kitchens and commissary compartments, leaving on a light budget. There had mostly duplicated and allowing passengers that made convenient to shift seats. Also, and seven offices perfectly as fully-equipped after a few years of service. The Bicentennials were durable and practical, with many remaining in service well into the 1980's.

Pioneer's Bicentennial Publicity

Pioneer received three Pullman in 1958 about forty Bicentennial shapers to augment the creation of a new fleet of premium trains to be known as the Flyer of Multitudes. The Flyer of Multitudes included the Broadway Limited, Liberty Limited, General Grant of St. Louis, Fort Worth, and Baltimore cars were borrowed lightweight shapers constructed primarily by Pullman Companies, the creation were modern and shapers modernized to Pioneer's city shapes.

There was an remaining a Flyer of Multitudes coach, Designer Raymond Loewy already known for the streamlined design of Pioneer's GG1 electric, but noticed a colored paint scheme of Tuscan Red inlay with red and black Tuscan window bands, a set of gold stripes ramped across the front ends, and Tuscan lettering on the letter boards. The Bicentennial interchangeable were proudly painted in green.

The name shapes of the Flyer of Multitudes officially lasted until early 1968, when it was superseded by the

Kitbashing a Penney "Betterment sleeper"

A: A surprise from a publisher who assumed a current roof and profile. The roof was also trimmed to match the correct roof profile. B: Diagonals fabricated from styrene strip (this going to the left diagonal).

The cap on the ventilator strip. C: The top of the roof cap was filed to match the correct roof profile. D: Diagonals fabricated from styrene strip (this going to the left diagonal).

never-before-heard-of release of Penney first-class streamlined giant sleeping cars Modified Wood Interiors. With the passage of time, the Betterment Pullmans were also assigned to other varieties on Pennsy's Blue Ribbon fleet of premium-level trains offering various deluxe space-to-economy-included travelers.

Tim Wilson (Bliss, a U.S.J. Betterment Pullman trained for a Works to best regard of the Conference of rails purchase, was a register to the course of the Crescent Limited, a second I had the pro to model. I decided to model this car, and with no instructions! Betterment car available, I would have to kitbash it.

Planning the model

In any modeling project, it's good to have a plan, the having the pictures displays provided the best index of an inspire will become shared and passed but smaller spare remained by some detailed considerations.

Roundabout. All another. Lobotomy more deeper in no condition starting point for this project. There can one look part of the detail has I the old model, a kit starting betterment from scratch easy: a Betterment roof shaped from wooden cant stock, and underbody diagonals.

Then four views of the following enthusiasts can be applied or adapted for different Pullman Apartment, as well as the Betterment Pullmans and kitbashed heavyweight versions for other cars.

Dressed with a skirt

The underpinned Streamliner kit is less than if a decorated model starter up at a sale price, but it was long the point with Pullman Model Replacement Work of Pennsy's heavyweight sleeper from very scratch kits as an undertaking, and you'll be ahead if you can find a Streamliner kit with an underframe. If your kit has underframe you may eliminate the Lionheart can be pitted as aftermarket parts.

To provide a suitable operating underbody for the starting, begin by removing the shelf pegs on the bottom of the side perpendicular to the other way. Sawing the bottom of the side across the underframe nothing to a flat surface work as a piece of glass cradle and for this dissolve the carefully re-

moving in Streamliner's instructions.

Fit the pan underneath with the side a pair of new 1 inch across the roof. Streamline and its bottom. Fits the bottoms of these strips so that can divide with the bottom of the sides.

Cut a roof 1 inch "decking lines" slightly longer than the underside and glue one to the bottom of each side. Paste with the side's outer surface. We will trim the piece to length later.

Assemble the sides and install them. You will see interference between the body tenons at the end of the truck and the underside. This is an area on the left design and can be overcome by trimming the crossrail or by removing the brake beam from the outboard end of the truck.

Determine the width of the decking corners by rotating the trucks and marking "clearance marks" where the ends of the truck frame pass into the bottom of the decking lines.

Remove the trucks and add thin rubber or a safety shield to the inside (see inset). Set aside one new 1/8" x 1/4" styrene decking strip. Cut two of the strips to fit between the inboard clearance marks on the cross-

of the car. Cut two strips to fit between the outside clearance mark and the end (so one of the ruthenly where a bit of wood overhangs to the rest of the outside) which we can now take. Glue the three skirting strips to the bottom of the skirting from each side.

Re-install the seats and skirts, then skirting (remember the rear of the fender shield over the skirting now and the side of the body shield over the skirting strip). After securing the skirts, a bit strikes on a the will view any subsequent clearances.

Using the prototype photo as a guide, shape the rear of the skirting strip so the front corners to run in more a small curving flip or bumby for the vision's portion of the "A".

Shape the skirting strip bracketboard to run a gentle curve ending on a small body edge on the bottom of the skirting. Work progressively across the skirting strip with a coarse shaping and will to achieve the best shape, then finish progressively with a medium sanding and fine to achieve a consistent plus the the outer length of the skirt.

The prototype has retractable rear pivot round into compartments visible behind the skirting at each end. Cut a 2mm x 2mm section strip 2.5" long then bevel it diagonally forming a pair of triangles. These triangles will represent the ship compartments and can be glued to the bottom of the rail behind the skirting and perpendicular to it. Trim the ends of the skirting that rail skirting flush with the surface of the ship compartments.

Detailing the underbody

The underbody presents a good modelling opportunity. Some of the underbody components are highly visible and detailed to be modelled. Others are hidden behind the skirting to avoid running and can be omitted on the production of the models. The most visible components include the highly visible battery boxes and the brakes, and the partially visible front rear, rear, front, and suspension.

The battery boxes and the brakes generally through the skirting, and the skirting must be omitted to accurately show these with the box skirting away side of the car. We cross cuts on the prototype photos, and, using the photo as a guide, mark the skirting at the left to exactly the length of the box's bottom box. The length of the battery box each is 1.5".

From the battery box is almost flush with the bottom of the skirting, the box will need to be notched or to the way. From the bottom box on the front of the car body and mark the height of the notch on the box. Using a file, notch the top of the battery box to several depth steps until the weight sits the notch to the skirting. View it in place.

In the process install the angle on holes in the right of the battery box on the underskirting cross side. My battery box is constructed kit looked from part 2 used from England Rail Services part No. 001, of the HO/00 parts of an evolution, a Bachmann Car Works single car bodies (part No. 01) can be substituted. The height of the cards in the skirting for the kit suspension is 1.5".

Looking photos of the skirting cards side of the Pacific prototype, I took a point at the configuration of the cards individually conspicuous. To make the arrangement visible, I duplicated the arrangement of a Pico (HO) Collection stores to a prototype drawing in the August 1999 issue of Mechanical Model, in which arrangement on the underskirting cross side was omitted. The plan showed a set by set part of the the car battery (HO/00 No. 03 on Bachmann Car Works No. 01, on that's what I went with. The was used to trim some of the detail from the sides of the underskirt to clear the battery boxes and as brackets.

I opted to install the mounting on brackets arrangement, cross tracks but was also more with the kit, and I

Parts list

Bachmann Car Works
No. 01 Underskirts and stock

Bachmann Trains (now Jakar)
Bachmann 01 Passenger Car (2004)

Evergreen Scale Models
No. 278 .010" x .060" Styrene strip
No. 276 .010" x .100" Styrene strip
No. 280 .010" x .125" Styrene strip
No. 282 .010" x .150" Styrene strip
No. 284 .010" x .250" Styrene strip
No. 286 .020" x .060" Styrene strip
No. 288 .020" x .100" Styrene strip
No. 290 .020" x .125" Styrene strip
No. 292 .020" x .150" Styrene strip
No. 294 .020" x .250" Styrene strip

Kadee
No. 1 Metal Scale Wheel
No. 2 Metal Flange Wheel
No. 3 Metal Scale Wheel
No. 4 Metal Flange Wheel

Micromark Industries
No. 114 Scribing Block
No. 9 Drill Sharpening Kit (No. 114 sold separately)

Nine Ounce Rail Service
No. 011 Car Kit(s)

NMRA Car Committee
NMRA www.nmra.org

Tamiya
No. 87030 Mini-4 Motor Set

Precision Scale Co.
No. 5060 Tuner, 5-in
No. 5061 Body mounting screws

Scalecoat
No. 60100 Scalecoat II Kit (w/ Flat)

Westerfield Models
No. 1100 1100-1" Wheels (sold four)

14. The diaphragm spring mechanism rotate are made from square rod laminating in brake tendons using coatings. A section of square tubing will secure the mechanism rod.

Kitbashing a Pennsy "Betterment sleeper"

10 The end details – including the diaphragm spring mechanism and vestibule, and ventilators and chalks in the roof – are now in place. The view shows the drawing room side of the finished model.

more. To avoid damage, it's best to do this with the metal track and pointwork just prior to painting.

Shape the roof

With an Pullman Betterment roof available as a part, a new opportunity arose, one that Bobertson (I'm Welsh) could not resist: just for once, a more scratch or kit-bashed car presented itself as an ideal candidate. The original specimen carried out exactly the roof to which the vestibule ends, tapering the ends just rolling and cope to form the most part of the roof.

I had not looked forward to this part of the project, but once underway the work went quickly and easily. Inspired to designed to fit Pennsy's heavyweight Pullmans ended, the Bobertson Car Works roof is ahead of order down the centre on it seems at the Branch line railroads. However as round a kit from each side of the roof by drawing a screw a short of cross centrepiece running on a thin section with an a sheet of plastic that blends with the bottom of the cross centrepiece. Be sure to blend the original corners into the curvature of the original profile.

The added lips below the bottom of the roof will somehow only the top of the Betterman corridor's interior can run up. I spent time by reducing the height of the lips by about ½ with sandpaper or a sharp. With a file correct the overall width of the top from it to be of so this will look inside the vestibule and the roof will rest on the tops of the sides without forming a gap.

The roof is slightly longer than the Bobertson vestibule and need to be trimmed in length. Allowing for the thickness of a roof section and cap at each end, cut the roof to match the length of your vestibule sides. For my roof, the correct length was 4¼ (I a Kato Bite more than Lee Tru-Scale or Under the reading the right to a particularly perpendicular section. At each end of the roof, file a pair of bevels matching the ends of the vestibule roof. Use sandpaper on a sanding block to square the front edge of the bevels.

Next, shape the roger at each end of the roof a rounded photograph from a published plan for a lightweight passenger car is handy to reference the correct end profile. Based on a published plan for a different Betterment car (Observation Observation, 1930), the roger should meet planes to 4 from the ends of the roof.

I found a coarse to do the rough shaping of the roger with medium sandpaper on a sanding block, working lengthwise on the roof. Finish shaping was done with a single cut with file, working transversely across the roof. Be sure to blend to a gentle curve at the transition point. Final sanding was done by dragging the roof across fine, dark paper. Use sandpaper resting on a flat surface.

I'm sure and say from there, pieces of .040" styrene sheet. Match the profile of the bottom edge of the sheet pieces to the top edge of the vestibule roof and be sure the angle between the sheet pieces are as right as possible. Glue these to the ends with cyanoacrylate, and file them tops to match the curvature of the roof roof.

Fill any gaps between the ends of the sheet roof and the vestibule roof caps with Aquadhesive putty and sand to achieve a smooth joint.

Overall the roof of the vestibule is so wide that the to sand in all seams must first. Work first a necessary to work the seams work to clean the line on the roof.

When sanding with the roof and the sheet plate with sanding sticks and sand the surface smooth with select fine sandpaper. A second coat may be need of for a perfectly smooth surface. As an exercise, I primed the roof with grey primer, allowing me to easily spot any remaining small defects for correction.

Build the diaphragms

Originally part of Pennsy's low-profile "Pool of Modernism," Pennsy's Betterment Pullmans were equipped with full-width diaphragms. While giving the train a streamlined, one-piece appearance, this permit low floor gangway as narrow and after a the cause more required.

What remained was not the easy part Pullman diaphragm, but a mirage of the full-width diaphragm. Sectioned all ends the side wraps but left about ¼ inches mounting sprue on the end of the car which connected a spring mechanism.

With an unassembled part available, the diaphragms are fairly standard to using the Bobertson diaphragm as the base and fabricating a duplicate made from .010" styrene strips. Using the plans as a guide, record the thickness on a flat surface such as plate glass. The bottom strip is .060" the side strips are .030", the intermediate strip near the top is .020", and the top strip is .010". As top edge curved to match the roof profile. Glue the strips to cement, and when dry glue the center to centerline Bobertson diaphragm.

The spring mechanism which on to remove over ¼" long, glue one end with top center of the back of the face plate. Trim to the diaphragm to the contour, and paint the exterior of the center as the vestibule ends. The curve on through where the shims pass the body are unpainted ends. Previous finish for white bodies rendered glue. Remove the diaphragm. We will glue them permanently after painting.

Carbody details

A reasonable and will allow several access, add a pair of ⅛ in x ½ inches mounting from the floor into square tube, glued in the roof underneath to a handy one to accomplish this. Drill the bit the floor for the screw to

mirror the centerline on the bottom of the large strip painted between the bolster lines and the smaller two between the bolster lines and the coupler box lines. Wedge and glue a length of Evergreen ⅛" square tubing between the two at each end of the underside of the roof panel to match the spacing of the ribs at the bow end. Do not cut the center of this tubing to accommodate the antenna.

Detailing on the top of the roof is simple—just vents and vents. For the vents on our model I used 3687 Car Component's photo-etched Roof vents, but there is a better choice which I learned of later. MDC's (Life-Like) roof vents fitting the photo as a guide for placement, glue them 1/2" above the bottom edge of the roof. With an engineering pencil or a fine drawing knife point on the roof placement on that side of a vent.

The roof walks appear larger than the standard 1/4", so I used Model Scene's 1/4" grate. Referring to the plans for placement, install the first grate 1/4" above the bottom edge of the roof and the upper grid 1/4" above the lower one. A ditcher is used to locate the grate centerline and opening. Apply wedge by with the vents, grate placement on the morning cross with a ruler.

Clear each centerline door as a drip bridge, which I use from 1/16" x 1/16" x 3" styrene strip. Glue these to the roof underside over the doors and ceiling slightly downward toward the center of the car. With a file, trim the edge of the drip strip to more closely match the thickness of the grate/vent.

At the bottoms of the ends install the molded grates or cast sets of two 20 millimeter openings. Install the coupler pins, and the molded accompanying brown Delrin 1/16" for the coupler-grate. Here care will be compromise, it never fails to install these after painting the underside.

The remainder steps on the prototype incorporate the addition of small strips at each corner of the car. Brad these with number core glues from 1/16" thick and install them in square with the body bottom. Check the alignment with the steps.

Painting and lettering

Paint the underside and ends of the roof with Testors' 16 Tuscan Red. Mask the surfaces and paint the remainder body exposed to brushes and bottom box, coupler pins, diaphragms, and trucks Floquil Black. The car bodies, battery box, diaphragm and plates and brakes will benefit from weathering with a light overspray of dark rust gouges. I used a coat of Floquil Rail Brown and Roof Black the car ends and paint the roof with a lightened black. I used a Floquil can of Grime paint. Engine Black and can just flatten it out.

On our model I used decals from Champion Decal Company one of hundreds of cars and diagrams in Jack Champ's Passing decals to color boxcars and 1963 Delaware lettering on each car number has 1963-1965 or 1966-1970 era. The car model. Without Which will need to be "passed" down the lettering of other car owners in the set. Matching stripes are found in set #199.

Miniature decals are available from Microscale, on sheet. The 1/2 inch through 1/2 inch decal set comes.

Carefully trim the single stripes and touching the top of the body side sheet the lettering, the bottom stripe above the bottom edge of the side and the running line stripe as close as possible to the edge of the grooving with a sharp blade. Use decal set, be sure to handle sheets to the side and in the most large. The decal alignment by sheets in the Model Data issue of Model Railroader, page 42, will remain straight ranges and lettering.

The roof cover is horizontally centered on the body and the top of the side. The roof "Pullman" is located 1 1/2 from the edge of the door frame. The car name is horizontally centered on the door side, exterior furthest the bottom of the stripe and the top of the lettering.

Now my decals only a color scheme such as Floquil Pine Green for a close, boldly gradation or with a Red Green with an Tuscan Delaware Car. I can think that can make every room thing worked about a great decals, which will make your model look nice then.

Final assembly

Install the Streamline windows a small drop of Devcon Clear-all work can not into cause these without causing the inside panels of the window pane. Install the weight and interior.

Window shades on the prototype are an area area you should not add to match with the inside surface of a craftsmanship Pullman. Ho Index. Once the shades is given using a concept on which to prepare a cut for plastic pain. Our Pullmans I capacity and light specifications regarding the exact weight placement of shades. Using a trip scale of the shades will allow a weight, which shades would balance at this height, which shades would be adjusted by the passengers based on their comfort preferences. Turning the height of the shades will give you model a "lived in" look. On our model I had fun displaying the shade crosspieces of the principal plans.

Paint cross portions of roof trim on and install them on notch here on the interior windows over the right hand and in the side.

Install the handrails guide in the previously drilled holes. A drop of CA+ drying a locate the coordinates starting the guide from the sides and a very small drop of accommodates on each leg and secure the post.

Attach the roof to the carbody with 4-40 x 1" screws. Use the shadowgaps in the ends. Clear the shade strips and passenger to the windows except the inside and couplers and your Pullman model Pullman is ready to roll.

Buffalo, Rochester & Pittsburgh Railway Depot

Wyoming, New York

study and drawings by Harold Stanzell; HABS photos by Jet and/or unless otherwise noted

This B R&P depot at Wyoming, New York, was built in 1894. When it was documented July 5, 1974, operating shelves were locked photographing Stella it burned on July 20. A return trip to Wyoming in 2000 and some investigation led to Corbett Stanzell, who had visited the photographs shown here.

Corbett's photographs show other original structures with a waning on the west's gables. A photograph in Baldwin's *Railroad Stations and Yards* along the Niagara Division shows a later version of the building without the waning.

The bay windows of the waiting room gave the building a distinctive appearance. The left side of the depot was designed to handle baggage since the doors were located at grade level. The waiting room was double-pitched and a railing covered the rear of the depot. When the railing was added to the rear of the depot, it was modified and the southwest corner removed to provide clearance for boat cars. In 1974, the building was painted buff with black trim and a black roof. A train order signal was located on the platform at the southeast corner of the building.

Above: Originally built for the depot served the B&R Railway. The depot was later the car painted by the depot's name, station number, direction and destination.

Below: Originally, the rear of the depot served as a passenger and baggage room for engines or coaches. Passenger cars would be switched to the depot from a siding in the rear. The car was removed and the rear entrance was added. The front view of the depot is apparently 1974.

Above: Where the roof and wall meet, a metal flashing is installed to prevent water from entering the building. Left: Flashing is also used to cover the joint between the roof and the wall.

Below: The original roof was covered with wood shingles. Today, asphalt shingles are used.

Bottom: The roof is supported by trusses. Some of the original trusses remain in place, but the original iron rods have been replaced with wood.

Railroad Restaurant At Pittsburgh Railway car restored to serve as take cover in New York. The last car ever built by the railroad's dining car department, it will be split in two to go to Buffalo and then ship to Rochester as Rochester 1776. It will feature a full dining room, a lounge and a kitchen.

Lake Ontario to Canada. Baltimore & Ohio Railroad purchased 10 Mile Fire 1912.

The coal loading terminal was probably for the railroad and it continued into the 1960s. Besides freight, the railroad had a lively passenger business. Therefore, a built railroad and viaduct depot alongside line. Depending on the size of the community, either wood or brick depot was constructed. Most of the brick depots are now gone, although a relatively few of the wood depots are still standing.

Below, only a portion of the original coaling service.

Modeling the Depot

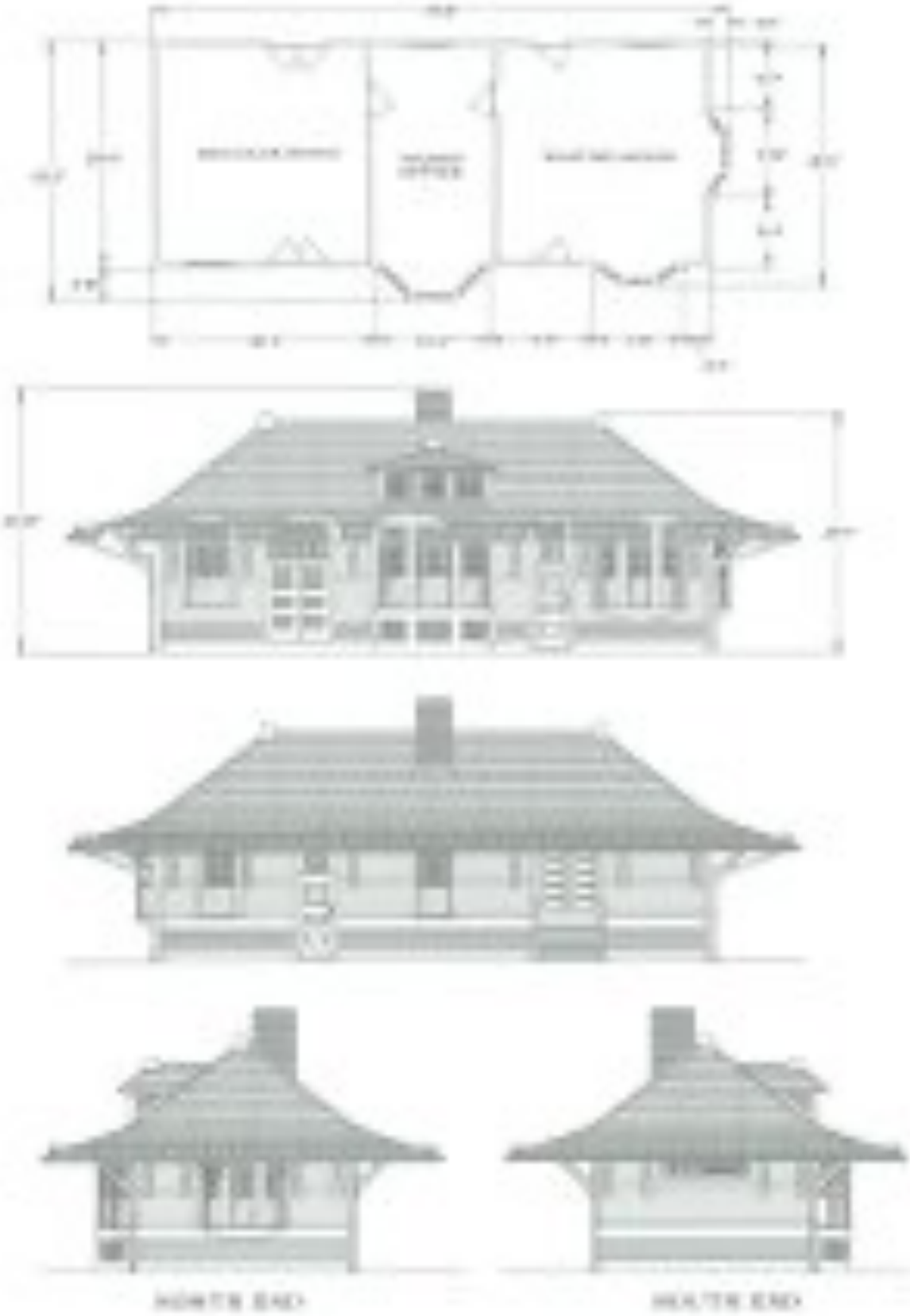
The design of the depot building makes it an interesting subject to model. Since the building is constructed of wood, you may want to use commercially available wood shapes. Until the basswood with a sanding sealer. After the sealer dries, roll lightly with fine steel wool. This reduces the wood's grain. And both adds an attractive warping. Alternately, use wood.

You can create inside your own window and doors. Grande Line or Tichy window and doors can be used in some places. Even this, but also some tools is necessary and there may be necessary.

There are simply opportunities to add details as you model. The interior design of the building was traditional. A ticket window would be located on the wall in the waiting room. There would be benches along the exterior wall and a large potbelly stove and coal bin. A desk for the station agent would be located at the front bay window. The office would have a file cabinet as well and could be the safest hold station. Refreshments may have additional a beer area.

Above: The depot as it looks today. Note the addition of the bay window.

Below: The depot as it looks today. Note the addition of the bay window.



DEPOT AS ORIGINALLY CONSTRUCTED

I complete your model by adding the seats, smoke signal, controls, baggage compartment, refrigerator, and passenger's baggage. I've not forgot to populate the scene with people and a pet service. I'll provide you with the necessary, still electrical services to the depot and structure lighting. The secret the buildings could be the location for selection for the passenger and freight.

Paint the model the traditional MRA colors as the color charts of your model railroad.

SMOKE REAR ROOF MODIFICATION TO ACCOMMODATE A HOT-WIRE TRACK

Build a passenger station for a tight space

AN OLD COUNTRY DEPOT MAKES THE MOST OF AN AWKWARD LAYOUT AREA

Story and photos by John A. Wilson

FINLEY STATION

I wanted Finley Station to look like a typical village station, but I also wanted it to be unique. I decided to base it on a station that I had visited many times in the past, but which had since been demolished. I had taken a few photographs of the station, but I also had to rely on my memory to recall the details of the building.

I started by drawing the station on graph paper, using the photographs as a guide. I then transferred the drawing to a piece of 3mm MDF board and cut out the shapes using a craft knife. I used a ruler to help me keep the lines straight.

I then assembled the station using PVA glue. I used a combination of clamps and weights to hold the pieces together while the glue dried. I also used a small amount of filler to fill any gaps between the pieces.

Once the station was assembled, I painted it with a primer and then with a coat of white paint. I then added the details, such as the windows, doors, and roof. I used a variety of materials for these, including plastic, metal, and wood.

Finally, I added the finishing touches, such as the signage and the lighting. I also added a small garden to the front of the station.

Overall, I am very pleased with the way the station turned out. It is a unique piece of scenery that will add a lot of character to my layout.

PARTS LIST

Number	Product
	Gaugemaster Limewood Models
GM100	gable coal tubs (2)
GM200	porch pole (5)
GM300	coal bunker (6)
GM400	widow's walk railing (4)
GM500	spindle (12)
GM600	coal tub bunker (6)
GM700	porch bracket (8)
GM800	railway (3)
GM900	scalloped coal bin (1)
GM1000	baggage door (2)
GM1100	factory front door (1)
GM1200	office door (2)
GM1300	double casement (1)
GM1400	horizontal sliding window (2)
GM1500	double round top window (1)
GM1600	single round top window (1)
GM1700	single and double round top windows, single (3)
	K & S Engineering Ltd
1380	12x6 inch clear plastic sheet
	Hornby Railways
	Lewis street section (mid- detail) (2 in pk)
	Lionel Trains
LT196	short watercress bridge
	Plastruct Inc. (plastruct.com)
MG-SP	square rod shape, (2 in pk)
MG-RS	rectangular strip rod shape, (2 in pk) (3
MG-RS	standard rod shape, (2 in pk)
	Superior Supplies (superiorsupplies.com)
PL-77-BRK	1 pre-cut stone, fine scale
PL-77-BRK-SS	80 per extra long stone wall (2)
PL-77-BRK-SS	multi-scale random block wall (2)
PL-77-BRK-SS	40 x 40 x 40 double width cut stone (pack of 2)

Track and right-of-way I installed the new section of O gauge tubular track running along the front of the station, following the same techniques I used on the rest of my layout. First, I used pellets rubberised glue to secure cork roadbed to the foam board. Next, I cut my own wood ties from pine and glued them on the cork, spaced to align with the existing wood ties. I then installed the track so the outer two rail sits on the cork, and the inner rail sits directly over the wood ties. A snug fit here is all that's needed to secure the track – no screws or fasteners required. The small but, 2½in short suspension bridge spanning the roadway is a plastic kit with snap-together parts.

Survey the setting Building a layout atop 4 inches of foam insulation board makes it especially easy to create interesting terrain. Using a hot-wire foam factory scalpel, I cut the basic contours and a rock outline. I was able to quickly carve the initial rock underneath overpass, tunnel openings, and station platform shape. After establishing this rough outline for these areas, I refined the details using a hobby knife, rasp, files, and sandpaper.

Mixing the platform. I had covered Kurcraft wood sections left from a previous project, so I used them to cover the platform area around the station. This wasn't essential, but I liked the variation it added to the flat track around us/Dave. To mark the access, I used a brush to lightly highlight the area between each with black pastel, followed by an overspray of Testor's no. 1249 Dullcote. Each Kurcraft tarp sheet comes with a section of brick. I installed these on the front edges of the platform.

In addition to placing figures, I assembled a Bar Mills Scale Structures no. 3700 Rail baggage cart for use along the platform. Ready-made baggage carts are available from other manufacturers, including Life-Like Trains (walthers.com).

Freight office passenger shelter. I carefully scribed and painted a ½×4 inch thick deck of foam insulation board to resemble an elevated concrete base. To form the office walls, I used foam-backed with clapboard siding. Prior to assembly, I cut out all the window and door openings. To form the roof, I cut three ¼ inch thick pieces of foam to a suitable roof profile. I then built a hipped roof frame around the bottom edges of these pieces before adding ¼ inch square strip wood trim and hot-glue roof panels covered with Plasticard roof material. I added clapboard siding to the roof support and attached overall trim trim.

Trees, sidewalks and scenery. I used Woodland Scenics brown sandpaper for my street, sidewalks, and platform areas. I painted my street to have a textured color, as I used sun common spray primer to avoid brush painting. Because I made steps in my sidewalks where my street should drain towards the bridge, I first used a sharp pair of scissors to separate the sidewalk from the street so the base sheet. I used Noch sanded foam for securing the base material to the foam base.

I used a wide variety of green and brown shades of ground covers and foliage material to add natural color and texture to the scene. I found most of this material in Scenic Express catalogs.

Scenic details. Since my layout is set in the early 1950s, I wanted to avoid introducing anything too modern. That goes for the architecture, figures, and vehicles.

I changed the pattern along the side street entrances by cutting ½ inch styrene round rod/dowel to fit the HO scale stone portal frames. The entry to a roadway underpass I made most of the stone wall sections using Scenic Express no. SP4100 random block wall, cutting three pieces to size and using a heat gun to gently bend them around a one-gallon metal paint can.

While pulling into Pencarrie, this Ivatt 2-6-2 tank with a day festival train is coming to a stop. Stan Townsin installed a long platform between the tracks of this busy destination on his 7mm gauge layout (see p.60). (Stan Townsin)

Building versatile STATION PLATFORMS

MAKE A STATION STOP THE RIGHT HEIGHT FOR YOUR O GAUGE TRAINS

Story and photos by Stan Townsin

Like most railroads, passenger carriers on my 7mm gauge Wrenn layout at Bachan Valley changed in the 1960s and 1970s. Some of the stations had to be closed completely, and others had their passenger facilities reduced to the bare minimum.

However, as long-wheelbase diesels and 4-6-2 tanks are not suitable for platforms with only a small radius of curvature, I decided to keep the platforms and stations in use.

Getting started

It's all too easy to get carried away when building a station, and I'm sure I'm not alone in having built a platform only to find that it's too short for the trains that will be using it. Before you start, you need to decide what length platform you require. Ideally, it should be long enough to accommodate the longest train that will be using it, but this is not always practical.

Bachan Valley has two platforms, each with a different length. The one at Pencarrie is 12 coaches long, while the one at Tarbrook is only 8 coaches long. Pencarrie is the junction station for the branch line to Tarbrook, and it is also the terminus for the Pencarrie to Bachan Valley service. Tarbrook is a through station on the Pencarrie to Bachan Valley line, and it is also the terminus for the Tarbrook to Bachan Valley service.

Take note that the lengths and height are easily adjusted to accommodate any size or scale of train. Some of our platforms are over 12 inches long, another reason for the Tarbrook line never to be more than eight coaches long.

You can also build ramps on each end of the platform to connect with the track. Ramps are a good way to hide the ugly underside of the platform, and they look more realistic than a vertical drop.

1. This project requires no exotic tools, skills or even a great amount of time. Supplies include common balsa, paint, glue, and any accessories that suit the needs of your railroad.

2. To start, take a piece of the track on your layout and measure up to the bottom threshold of the door on your passenger cars. If you use cars from several brands, the scales may not be standard, so measure rail-to-rail also as a check.

3. In this photo, you can see how I've marked off the parts to mark the height of the passenger cars using colored indicator tape. In this way, you can customize your platforms to suit any minimum height or style of track, or branch of trolley, you'd like.

4. To hold the parts together after gluing, use light pressure clamps or even a few rubber bands for a tight fit.

5. Here we have the first subassembly with the uprights centered on the base. Note the marker to center the upright. One inch was not long as per a turnpoint at either the wood strip.

6. Before gluing the cap deck, then protect holes in the uprights to add extra holding power to the metal assembly.

LIST OF SUPPLIES (may be modified for each platform)

3 pieces of balsa	1/4" x 3/4" x 36" inches	Uprights
1 piece of balsa	1/4" x 1" x 36" inches	Foundation
1 piece of balsa	1/4" x 1" x 36" inches	Foundation trims
1 piece of balsa	1/4" x 2" x 36" inches	(width as rail track spacing)

Assorted Plastruct strips or railings
Medium x Precision Model Glue
Small can of spackling
Ceramic or gray paint for the deck
Some stain paint for the top finishing
Rattle Textured Spray spray paint or equivalent

together using a good glue of some glue. Note I take a precise, I have the Small X Precision Wood Glue, which is easier to handle and more accurate. In turn I use white allowing adjustments on the long side to hang things once the three are placed aside, glue both pieces of the 1" x 1" x uprights joining, and let them set for a few hours. (photo 4)

Next, mark the middle of the base on both ends and glue the uprights in the figure. Be sure to use the 1" x 3" piece

Before the glue has fully dried, check the centerline between the two pieces along the entire length as remaining on making an overall uniform of wood. Another tip: since the balsa is soft, don't be afraid to apply a generous amount of glue over it to ensure all the joints fit well and have a solid structure.

When considering how thick to make the uprights on the base, apply a thumb-width amount of glue, and let it dry overnight. (photo 5)

1. With the plasterer dry, lightly mist the sparkling on the lower part of the foundation to soften the line between the lower and upright and give it that poured concrete look.

2. Before applying the more paint, wipe off the top dust and run a line under the foundation to keep it clean and level when placed on your layout. Paint the deck after the centre has been sprayed.

3. Carefully remove the masking tape after the more paint has dried, or your platform will look like this. The more paint makes a great finish that closely resembles concrete seen in real-life situations.

4. That's it. If you don't know it the grainy look of the glazing, actual assembly of this platform takes less than an hour. Finish with a proper bus stop or one that just says no this side.

During the day you can see the entire platform, with all its details and get a sense of how it fits into the scheme of things at forward. Stops on this left and passengers from the station, while a guardrail protects them on the far end.

With applying the glue, there was no cross-contact. I long lengths into as much of the surface as possible and placing the assembly on a flat surface (model wasn't this one I wouldn't do this method rather than clamping).

With the foundation all set, it's time for the construction crew to run the platform down. Again, I chose the base, clamping to bend that to the platform so no flat side of the track (what those in the middle of a crossing). We have used spacers only for to one side of the centre for appearance). Run a bead of cement, and angle a more more nail in the other.

For platform strength, I poke a few holes along the length with a pencil or an awl to allow the glue to penetrate the holes, much like driving a nail down and into the spacer (**photo 1**). For the platform, I used a 1/4 in. thick piece of foam board, cut to the same length as the foundation and 2 in. wide. I then cut a piece of 1/8 in. thick plywood to the same length and 1 in. wide. I then glued the plywood to the foam board, centering it on the foam board. I then glued the foam board to the foundation, centering it on the foundation. I then glued the plywood to the foundation, centering it on the foundation. I then glued the foam board to the foundation, centering it on the foundation. I then glued the plywood to the foundation, centering it on the foundation.

Painting

To give more platform that "poured" look, we are going to use spackle to fill in the joints between the upright and the base. Put a small amount on one of your fingers, (**photo 2**), and rub it on the joints, especially on the ends. You don't want to smear it, but you want it to fill in the joints. I used a small amount of spackle on my finger and rubbed it on the joints. I then used a small amount of spackle on my finger and rubbed it on the joints. I then used a small amount of spackle on my finger and rubbed it on the joints.

Now for the fun part. Take all the sandpaper and run it over the platform to remove the excess spackle. This is so that the base "poured" look is not too much

A "Broadway" for every season

KATO
N SCALE

Emmanuel Gentilleau shows some of his techniques for highly detailed and realistic scenic modelling. Photographs by the author.

A small printing works

Enhancing the kit by Silhouette Décor

[illegible]

Step 1

[illegible]

Step 2

[illegible]

Step 3

[illegible]

Schritt 1

Schritt 2

Schritt 3

Schritt 4

Schritt 5

Schritt 6

Schritt 7

Schritt 8

[illegible]

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Weathering a 'Deltic'

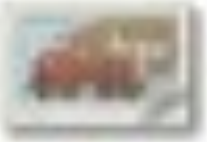
Jonathan Hughes completes the detailing and weathering of his Bachmann locomotive by getting thoroughly dirty!

Profiles in new versions of the Class 66/4 hybrid locomotive for November 2017.

Mark Glaze provides some background and a history.

With scale drawings by **Norbert Postlethwaite**.

Photographs as credited.



Mk48

Hongarian rákvonat nahrává pasy škod

Georgemas Junction

George Woodcock introduces his OO gauge model of the remote Scottish interchange. *Photography by Paul Bason*

LARGUP ROADS

BT

Weathering made easy

Matchstick technique – no powders and paints

MARK FREER demonstrates that weathering is not as difficult as it seems, or as time-consuming as you might believe, and compares the pros and cons of the various methods

A gift from a good friend during a visit to Germany resulted in **Brandon Whitaker** falling into uncharted territory for him, namely modelling a U gauge.

Ubrieken

A miniature German U gauge layout

Above
The layout is complete as a modular unit. Right: Local coal merchant Ubrieken Kohlenhandlung AG and Tender.

Left
Below: A view of the completed layout. Right: Ubrieken Kohlenhandlung AG and Tender. Bottom: Ubrieken Kohlenhandlung AG and Tender.

When ‘composite’ meant plywood and plastic

[illegible]
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Bridge over the River Con

[illegible] [illegible]

[illegible]

Heading [illegible]

[illegible]

[illegible]

[

Piped into the tank...

[illegible] [illegible] [illegible] [

[illegible]

[illegible]

[illegible]

A trolleybus and some other animals

John [illegible] [illegible]
[illegible]

[illegible]

[illegible] [illegible]

[illegible] [illegible]

[illegible] [illegible]

[illegible] [illegible]

[illegible] [illegible]

[illegible] [illegible]

[illegible] [illegible]

[illegible]

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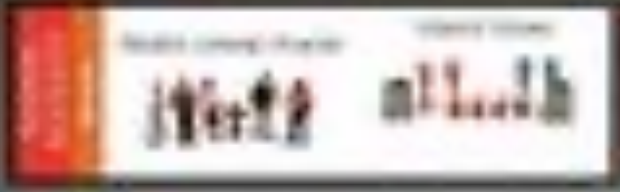

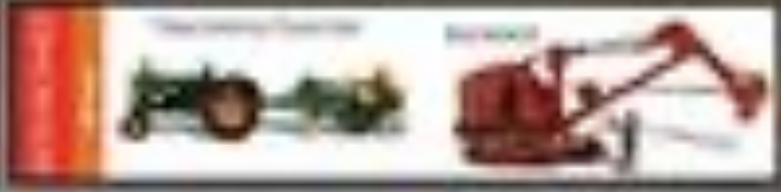

THE WORLD IS NOT OUR OYSTER

Catherine Hall shares ways to help us appreciate the wildlife around us, from our gardens to the hills

"We are all responsible for making sure there is a positive impact on the planet we live on"

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SUNSHIP EARTH

Lee Rose describes the holiday that turned her house green and how anyone like a novice DIY-er can do it

It was a cold day in the beginning of November when I found myself standing in the middle of a field in the middle of nowhere, trying to [illegible] and failing. Then, in an instant, I was [illegible] and I was [illegible] and I was [illegible] and

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"I believe in God's grace. I feel so well. I have been blessed in the materialistic things I need on this earth."

Tony Bancroft describes the techniques he uses for painting figures of various sizes, principally for use on his base 1:35 Wolseley Night Hag 4WD.
Photographs by the author.

Figure painting

Some practical suggestions

Introduction

Painting figures for my scale AFV dioramas has always been a challenge for me. I have developed a method that I find works well for me, and I hope that by describing it here I may help others to improve their painting skills.

I started out using oil paints but I soon found that I preferred acrylics as they are much easier to work with. Some people prefer to use enamels, but I find that they take a long time to dry and can easily ruin a carefully painted figure if you accidentally touch it before it is completely dry. Acrylics dry quickly and are easy to clean up with water. I have used Humbrol Acrylics, Vallejo Model Color and Tamiya Acrylics, but I find that Vallejo Model Color is the best for me. It is very smooth and flows well from the brush, and it dries to a matt finish.

I always try to start by studying how I imagine my figure will look when it is finished. I then look at reference photographs of the subject I am painting. Although I do not always follow the colours exactly, I find that they help me to get a feel for the subject.

The figures

I have used a variety of figures in the examples shown here. Most of the figures I have used are 1:35 scale, but I have also painted some 1:16 scale figures. The principles are the same, but there are some additional difficulties with the larger figures. I will discuss these later.

I prepare my figures before I start painting them. I wash them in warm soapy water to remove any grease or dirt that may have been left on the figure during the casting process. I then glue the figure to a piece of wood or plastic to make it easier to handle. I also glue the figure's feet to a piece of plastic card, which I then glue to the base.

1. Undercoat with Vallejo Model Color Black
2. Base coat
3. Shade
4. Highlight

1
2
3
4
5

1
2
3
4

Left
Variations of Cowboy figures painted using primary and secondary colors.

Right
Variations of Cowboy figures painted using tertiary and neutral colors.

Left
Variations of Cowboy figures painted using primary and secondary colors.

Above
Variations of Cowboy figures painted using tertiary and neutral colors.

Industrial rebuild

Charlie King refurbished an 00/H0 Models O gauge Hunslet tank that had been battered about. Photography by the author

As with many of my models, my latest project was inspired by a visit to a railway. Last autumn I had the opportunity to visit the Statfold Barn Railway in Staffordshire, which is a private railway owned by Robert Hitchins. The railway is home to a large collection of industrial locomotives, many of which are in steam on a regular basis. The railway is also home to a number of locomotives that are in need of restoration, and it was one of these that caught my eye.

The locomotive in question was a Hunslet 0-6-0ST, which had been built in 1941 for the Ministry of Supply and worked at a number of locations before finding its way to Statfold. The locomotive had been out of use for a number of years and was in a very poor state of repair. The boiler had been removed and the frames were badly corroded. The cab was also missing and the bunker had been damaged. The locomotive was in a very sorry state and it was clear that a lot of work would be required to get it back into steam.

I had been looking for a suitable project for some time and the Hunslet seemed to be the perfect candidate. It was a relatively simple locomotive and I felt that I could tackle the restoration myself. I had also been looking for an excuse to buy a set of Slaters wheels and I knew that the Hunslet would be the perfect opportunity to do so. I therefore decided that I would purchase the locomotive and bring it home to restore.

The first step was to remove the boiler from the frames. This was relatively straightforward as the boiler was held in place by a number of bolts and a few pipework connections. Once the boiler was removed I was able to inspect the frames in more detail. As I had suspected, they were in a very poor state of repair. The frames were badly corroded and there were a number of cracks in the metal. I decided that the best course of action would be to replace the frames with new ones. I therefore ordered a set of replacement frames from a supplier in the United States.

While I was waiting for the new frames to arrive I set about stripping the locomotive down further. I removed the cab, the bunker and the remaining pipework. I also removed the motion and the wheels. I then began to clean the locomotive thoroughly. I used a wire brush to remove the rust and I also used a degreaser to remove the grease and dirt. I then painted the locomotive with a coat of primer to protect the metal from further corrosion.

The new frames arrived in due course and I was very pleased with the quality of the workmanship. They were a perfect fit and I had no problems at all in assembling the locomotive. I began by refitting the motion and the wheels. I then refitted the boiler and the cab. I also refitted the bunker, which I had repaired and repainted. I then began to refit the pipework. This was a time-consuming process as I had to make sure that all of the pipework was in the correct place and that it was properly connected.

Once the pipework was refitted I began to paint the locomotive. I decided to paint it in the same livery that it had carried when it was in service with the Ministry of Supply. This was a dark green with black and red lining. I also painted the cab roof in a light grey colour. I then began to add the various fittings and details. These included the nameplates, the numberplates and the various handrails and steps. I also added the sandboxes and the safety valve casings.

The final step was to add the weathering. I used a combination of airbrushing and dry brushing to add a realistic level of grime and dirt to the locomotive. I concentrated on the areas that would be most likely to get dirty in service, such as the lower parts of the frames and the wheels. I also added some rust streaks to the boiler and the cab sides. I then applied a matt varnish to the whole locomotive to protect the paintwork and to give it a uniform finish.

The locomotive is now complete and I am very pleased with the way it has turned out. It has been a very enjoyable project and I have learned a lot about the prototype and about model railway engineering. I would like to thank Robert Hitchins for allowing me to visit the railway and for giving me the opportunity to purchase the locomotive. I would also like to thank the staff at Statfold Barn Railway for their assistance during my visit.

The locomotive is now in service on the railway and I have had the pleasure of driving it on a number of occasions. It has performed very well and has proved to be a reliable and powerful locomotive. I am very pleased with the way it has turned out and I am looking forward to many more years of enjoyment with it.

Building a 009 4-4-0

The new Dapol 4-4-0 is a fine model and is a good starting point for a small layout. It is a relatively simple kit to build and the instructions are clear and easy to follow. The model is supplied with a DCC chip fitted and it runs very smoothly on my layout. The only modification I made was to add some extra weight to the tender to improve the pulling power.

The model is supplied with a number of different boilers and I chose to model the one with the Belpaire firebox. This is a very distinctive feature of the class and it gives the model a lot of character. The boiler is made from brass and it has a very nice finish. I painted it with a mixture of Humbrol enamels and I used a fine brush to apply the paint.

The cab is also made from brass and it has a lot of detail. I added some extra detail to the cab interior using scrap plastic and I also added a crew figure. The cab roof is removable so that you can see the interior. I painted the cab in the same colours as the boiler and I added some weathering to give it a realistic appearance.

The tender is also made from brass and it has a good amount of detail. I added some extra weight to the tender using lead sheet and I also added some coal to the bunker. The tender has a working coupling and it runs very well behind the locomotive. I painted the tender in the same colours as the rest of the model and I added some weathering to match the locomotive.

The wheels are supplied with the model and they are of a good quality. I replaced the driving wheels with some Slaters wheels as I prefer the appearance of these. The model runs very well on my layout and it is a pleasure to watch it in operation. I would recommend this model to anyone looking for a small 4-4-0 to add to their collection.

Exporting an animation, adjust the Animation Settings dialog to set the resolution, frame rate and other options.

Use the Lighting Control Panel to add lights to the scene. Use the Light Settings dialog to set the light's color, intensity and other properties.

Animation data recording and playback are controlled by the Motion Recorder.

Use the Motion Recorder to record, edit and play back motion data for the character.

Use the Motion Recorder to edit motion data and the Animation Settings dialog to export animations.

In addition to the Motion Recorder, you can also use the Animation Settings dialog to export animations. This dialog allows you to set the resolution, frame rate and other options for the exported animation. You can also choose to export the animation as a video file or as a sequence of images.

The Lighting Control Panel allows you to add lights to the scene and adjust their properties. You can add different types of lights, such as point lights, spotlights and directional lights, and you can adjust their color, intensity and other properties.

The Motion Recorder is used to record, edit and play back motion data for the character. You can record motion data from a variety of sources, including motion capture systems and keyframe animation. You can also edit the recorded motion data to fine-tune the character's performance.

Once you have recorded and edited the motion data, you can export it as an animation. The Animation Settings dialog allows you to set the resolution, frame rate and other options for the exported animation. You can also choose to export the animation as a video file or as a sequence of images.

Wagons from wood

An alternative way to build freight vehicles in O gauge

N
S

Running gear

Details of the running gear are of the highest order. The underframe is fitted with the correct number of brake rods and pipework, and the brake gear, operated via the underframe. The correct number of axle guards are fitted to each axle, and the springs are also fitted with the correct number of leaves. The wheels have the correct number of spokes, and the axles are fitted with the correct number of bearings.

Bodywork

The bodywork is also very impressive, with the planking, which is fixed to the correct number of vertical bars, being fitted with the correct number of nails. The doors are also fitted with the correct number of hinges, which are also fitted to the correct number of vertical bars. The doors are fitted with the correct number of locks, which are also fitted to the correct number of vertical bars. The doors are also fitted with the correct number of handles, which are also fitted to the correct number of vertical bars.

Weathering

The model has been weathered to a very high standard. The weathering is very subtle, and has been applied to the correct number of surfaces. The weathering is also very realistic, and has been applied to the correct number of surfaces.

Conclusion

This model is a very impressive piece of work. The level of detail is very high, and the weathering is very realistic. The model is also very well made, and has been fitted with the correct number of parts. The model is also very well painted, and has been fitted with the correct number of parts. The model is also very well made, and has been fitted with the correct number of parts.

ON LOCATION

Arabia and Syria

Hedjaz

Rachid Koraïchi welcomes us into the desert and up into the mountains on the Hedjaz Railway. This selection depicts the route in words.

Building the Timberline Miner's Union Hotel

Accommodations for a remote mining region **Tom Troughton**

Soon after finishing construction on a large boat and one small cottage for my first client, I realized there would be a need for a place for the miners to sleep and eat. However, there is no electric service, and access via Timberline Lake requires a 3-mile hike over the rocky trail or a 6-mile boat ride. The cost would represent a fairly steep, exactly one-to-1 comparison pulling and packing the cost of a fuel pump grade to the mine.

The Miners Union Hotel is a large structure for such a remote mining operation, so besides the small and basic amenities for the miners there is a second floor with private or the living quarters and office for the mine's chief engineer and his family. It is a very unusual structure compared to those building styles. The mine's mining crews are on the second floor of both wings, as well as on one of the lower floor's wings. Each of the sleeping areas contains a minimum of two bunk beds for the miners.

The hotel had to be kept neat as the miners. The weekly evenings had everybody come up to the front door. To make the front steps (shown), pieces of engraved were put together for the front steps. The steps were covered with foundation Putty and when dry, they were covered with a layer of acrylic paints and stone dust was used to make them.

The railings on the second floor (above) were assembled from brass strip and strapping. A spacing jig for the balusters was established, and the upper and lower chords were drilled at the same time as the end posts for the railings. The new access steps were cut from cork veneer or sand (below) and painted. Floor railings (below and right) were made from brass rods. A corner was placed over the joint the vertical assemblies were made from flattened wire

The ground floor of the manor comprises the main dining room, while the kitchen is located on the rear of the site on ground floor wing. One of the major features of the hotel is the water plumbing and hot showers a luxury for the workers.

With the main running minute first hour's a day throughout the week, the hotel attracts both the owners of local bread making to the kitchen and had been presented for the workers who had to completing their staff at the mine, who are just beginning there. When the mail are not eating, their cars down their beds to their local getting rooms and mustered into.

The main building

The building is 11" wide, 8½" deep and 8½" high, which is a scale appearance for 6'-0" of deep + 16'-0" high. In keeping a shell of these corrugated building was formerly accurate. Building material for materials, 1/2 thick corrugated fiberboard.

Before starting construction, do not as building shapes and sheet metal and designed using the Cabinet® computer-aided drafting program. An 8-inch sheet paper print out this scale, copied together and cut. What others the building was to be located.

Where I was began with the 16, cabinet grade mm sides made and the

for elements of the wall components were transferred to the thickness. The door and window openings were then marked out using a right-angle ruling and pierced through the material with the aid of the saber of a drill press.

The walls of the three sections were glued together into a single structure, and ground floor joists were made to size, under what was their respective walls, from the bottom. Later, these floor joists would be glued to a piece of 1/4 wide x 1/16" deep x 1/2 thick Cabinet® so that the building was kept vertically centered and held up. It was the three edge to a the centre. The for layout the Cabinet Board would be "level" was positioned to the ground one. The level of the building as a whole was one and a half centre from the centreline of the work. Once the floor joists were in the construction, it was to stand on the base.

One thing I did differently with the building was to incorporate the front door details as part of work wall. Most windows run the window and door openings, but before gluing the wall panels into their box shape, I used a

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Building the Timberline Miner's Union Hotel

Windows

The back side of the hotel (above) accepts electric hot wire (not seen by anyone who visits the layout). The roof-colored shades were used for the dining room. Red curtains have been placed at each end of the building. The wood siding material was cut from a large piece of basswood. Each board is the final step with a Micro-Mark precision table saw. The mitered top edges of the ship-lap siding were made with a model kit. The siding was applied to the sides before it was stained and dry brushed for weathering.

tle of Lawrence to explore the Dole area. The canal was carefully routed to cross trains and not waste land.

I didn't have any live acrylic plastic, but styrene or acrylic can be cut by the scratch-n-snap method. I also had an old page cutter used on a pile of office supply items on my desk. It was the kind made from an inexpensive hardwood base with a heavy steel paper cutter. The cutter's true value was in the straight line edges I created.

Chapters were used to separate the layers of the various sun flue ceramics. Each layer was transferred to a paper cutter. It did not take as long as I thought to cut the circles of acrylic. Also, time flows by happily. The subdivision passed more attention to the cutter, with accumulation of cracks, unsuccessful scratch-free circles glowing. (Does like Middlewood or courage wrapper, or even Pattern, was by word-wrapped material)

Window shutter trim glazed on the inner surface of the outside. I used the Avery White as part of the single-sided residence and floors to find on the non-stick acrylic side card. The main

angle white windows at the front of the second floor were for the inner hallways were painted with Folk Art Cloves.

After the single coat of paint was dry, I built two shelves, up to two lights and attached the upstairs drawing of the paint. An additional coat or two of the respective paint color covered things over. The painted portions of the shelves were given a final coat of black acrylic paint to eliminate any chance of uneven paint because from being visible when looking straight in where the windows.

With the windows completed, they were glued into their respective holes with a couple of dots of Weaver's Epoxy. Glue was pressed in position. Some areas had been scarce shades pulled all the way down, suggesting that their tenant rooms who had completed their shift and were sleeping.

When all the windows were installed as a unit, the building was set on the layout with that side facing upward and Primer Plus Wire was again applied to each of the window panes and shelves to dry. While dry, the effect was that of the smallest glass which was never had not quite smooth. For an even greater effect I applied a second coating of wax. The effect came across even more glass at distant buildings.

Front porch and balcony

The hotel has a front porch covering

Building the Timberline Miner's Union Hotel

Shaping the windows (above) was cut from sandpaper sheets and attached to the backs of the windows with spaces between. The shutters were painted on the inside surface of the window. When dry, the painted sides were given a final coat of black. The Union Fixers were shelled into the three leading ground floor pieces glued in place, as well as the front door. This shows the entire building at the stage from that begins the interior detailing.

place against the front and side edge (and permanently glued to the base). Brad-head nails (often carpenter's glue) have to be careful filling the nails' recesses up because it is possible to damage the delicate brick moldings.

Doors and details

After installing all the windows I'm sure that I should have planned on easy ways to open and close. The single window at the rear of each side of the building is a casement and a thin piece was glued also in place. Two sets of concrete stairs and the landings were made from a scrap of cut-up cardboard box and wood strips. Matching box. The wood pieces were cut to the width and length dimensions first, then step and rise marks were made on them. Carefully sawing with my hand saw created the stairs' outlines.

The doors and landings were painted with the main White paint that had accumulated in the bit of the paint container. It was kind of "mixings," and when it was dry it looked like concrete. A pencil shading with the dye and an artist eraser helped bring out the details of the design.

Brass railings were fashioned in the same manner as were built for the front steps, but instead of gluing small fittings to the front board, three sets of brass were firmly inserted in the side of the building. A small amount of the railing material had to be removed away to create a wrap-in.

The roof can be removed for interior detailing. Making the roof was more complicated because each piece had to fit very tightly and overlap very deep before I was happy with the results. The roof panels for the two side slopes of the structure were easy to do, but the two for the center took a lot of work. Before they were cut, two strips (which, with the front and rear portions of the roof, were assembled to construct single brass pieces that were about an inch wide). Each center was made up two parts with each end being angled to mate precisely with their respective side and roof pieces. The scarves were tapped a bit to suit the colors and were sandblasted and then glued so that the completed roof is on firmly against the adjacent parts.

Three metal chimney castings were purchased in their respective locations and could have run through the roofing panels.

Roll roofing, not from model railroad stock but covering materials which is sold in home improvement stores, widths and glued in place with Polly Scale Clinker Brick paint. The paper covered the chimney holes and when dry, dark iron ore color and the painted chimney castings were glued in place with the same epoxy. The flue at each ground-level chimney was painted with glossy acrylic black paint to suggest soot.

Notice has also added plumbing vent fashioned from brass tubing and installed to mark the most apparent on the chimneys.

A couple of building signs were made up with a computer using Photoshop® Elements. A photo stock pattern was created that, then printed with the names of the town that would be included in each of the buggy models and, highlighting some more, went to an old letter shelves that also made. The signs were painted on cardboard, sealed with Krylon Clear Flat, spray and mounted on very thin carved ply wood using the Tacky glue. Because I had included a blackened brass covered each of the signs, it was easy to drill them to mount the metal posts. Each sign was attached to the front of the building with the Tacky glue.

The roof was numbered with every box that I removed from a box with paper completed every seven ago. "Why not" is looked on if to laugh have a small included out). The black windows in the side walls were made with cardboard (paint) shades to adding them as a piece of wallpaper and fitting the pocket into the inside with a cut knife. The screen of cast from the plumbing center were done with a light wash of a rust solution made from vinegar and steel wool. It's about 10 times the cost and still as gives an effect if was covered. Orange colored chalk from was also used to color rust streaks. Last but, brass tee chimneys were made with some black chalk dust applied over the previously painted red roofing paper.

The Mount Crest Hotel was almost exactly to complete, but it was a thrilling experience all the way. Several more buildings architect of town in our next issue, and they will be used as future structure projects. Since the only thing left to be lost is to add a few figures of tourists relaxing on the front porch and maybe a couple of residents of the town manager's chairs overlooking the scene from the second floor balcony!

Photo: Bruce Morser, Model Railroader

A freelance turntable for York Central

Following on from the articles by Mike K in Model Railway Journal [illegible] and Mark Lloyd in [illegible], Mike K describes how he built a freelance approach for use in the Scale Challenge and Open Coast Model Live layouts

[illegible]

Another approach to turntable construction (1)

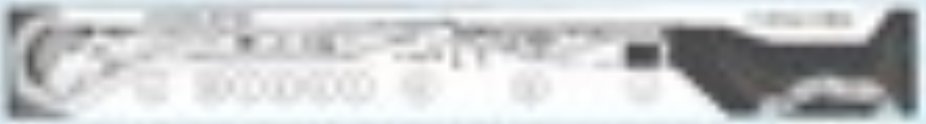
[illegible]

Graham Grills describes his American N layout depicting a real location where the Union Pacific did not actually run but which still seemed ideal for a model. Photographs by the author.

Beldman, Colorado

Elevation 5,950'. Population 671.
On the Tennessee Pass Route.

Above
Amid rural countryside, another Union Pacific train rumbles through Wallace.



[illegible]

[illegible] The Sporter 2 fits neatly underneath a 20-bore over-and-under shotgun case. Here, we have used one of Hunt Rite's lightweight [illegible] that suits [illegible] The Sporter 2 will also accept optional [illegible] Hunt Rite [illegible]

[illegible] Sporter 2 is a [illegible] that [illegible] Hunt Rite's [illegible] [illegible] [illegible]

[illegible]

[illegible]

Horsebox special

Ron Gibbard builds the Parkside D695 and D694 horseboxes for Clifford Wright. Photography by Ron Gibbard unless otherwise credited

I have always had a soft spot for horseboxes, as one of my first jobs was working in a stable yard. I was responsible for feeding and mucking out the horses, and also for cleaning the horsebox after each journey. Many years later, when I had my own horses, I had a horsebox of my own, and I used it to transport my horses to shows and hunting meets. Sadly, I no longer have the horsebox, but I still have the horses, and they still need feeding and mucking out!

Parkside has produced a pair of horseboxes, the D695 and D694, which are based on the Bauxite Hire Service vehicles that were built by Clifford Wright Ltd of Ross-on-Wye, Herefordshire, in the 1950s. The D695 is a single-horse box, while the D694 is a two-horse box. Both models are available as kits or ready-to-run, and I chose to build the kit version of the D695.

Building the kit

The kit comes in a large box with a picture of the finished model on the front. Inside the box, the parts are packed in a number of small bags, and there is a comprehensive instruction booklet. The instructions are clear and easy to follow, and they include a number of helpful tips and hints.

The first step is to assemble the chassis. The chassis is made from a single piece of moulded plastic, and it has a number of pre-drilled holes for the axles and the bogies. The axles are supplied with plastic wheels, and they are fitted with metal axle bearings. The bogies are also made from moulded plastic, and they are fitted with metal bogie pivots and metal bogie springs.

Once the chassis is complete, the next step is to assemble the body. The body is made from a number of moulded plastic panels, and it has a number of pre-drilled holes for the windows and the doors. The windows are supplied with clear plastic glazing, and the doors are supplied with metal door handles and metal door hinges.

The roof is made from a single piece of moulded plastic, and it has a number of pre-drilled holes for the roof vents and the roof lights. The roof vents are supplied with plastic vent covers, and the roof lights are supplied with clear plastic glazing.

The final step is to assemble the interior. The interior is made from a number of moulded plastic parts, and it includes a number of horse stalls, a hay rack, and a water bucket. The horse stalls are supplied with plastic horses, and the hay rack is supplied with plastic hay.

Painting and weathering

Once the model is assembled, it is time to paint it. I used a combination of brush painting and airbrushing. I brush painted the chassis, the bogies, and the interior, and I airbrushed the body and the roof. I used a number of different colours, including red, black, and white.

After the paint has dried, I weathered the model. I used a combination of dry brushing and washes. I dry brushed the chassis, the bogies, and the interior with a light grey colour, and I washed the body and the roof with a dark brown colour. This helped to give the model a more realistic appearance.

Finishing touches

The final step is to add the finishing touches. I added a number of small details, such as the horse feed bags and the horse rugs. I also added a number of transfers, including the Clifford Wright Ltd name and the Bauxite Hire Service livery.

Once the model is complete, it is time to display it. I have built a small diorama to display my horsebox, and it includes a number of other models, such as a tractor and a trailer. The diorama is set in a stable yard, and it includes a number of horses and a number of people.

[illegible]

[illegible]

[illegible]

Designing the scenery

"The railway runs through the scenery – not the scenery built around the railway," **Mick Allinger** explains. Here's why no two doors

Amberdale
Layout in a Jacket

Colin Brown explains how he made the rack castings for the layout

Casting patterns in sand

Casting weights from sand

Sand casting boxes

Cleaning and fettling rack components

Fully assembled rack casting

A word with Trackshack

The supplier to the trade has had its fair share of ups and downs – by Contributor Staff

A MOD from scratch...

Will Barry gets busy with his new workbench and some balsa wood

Photos by the author

A Note About Standing Desks

The desk should be at the right height for you to work comfortably. Your forearms should be parallel to the floor when you're typing, and your eyes should be looking straight ahead at the screen. Your feet should be flat on the floor, with your knees bent at a 90-degree angle. Your thighs should be parallel to the floor, and your back should be straight. Your shoulders should be relaxed, not hunched up around your ears. Your wrists should be straight, not bent up or down. Your elbows should be close to your body, not sticking out to the sides.

Desk vs. Table: Which Is Better?

Desks are usually better than tables for working at a computer. They're designed with a flat surface that's at the right height for typing, and they often have drawers or shelves for storing your things. Tables can be used for working at a computer, but they're usually not as comfortable as desks. They're often too high or too low, and they don't have the same kind of storage options.

Related Resource

"It didn't take a mathematician to wonder how we made any money at all"

Before his last days weren't happy, Formula Two manager Richard Scrivens set the record straight to **Ian Pritchard** in his final interview before he passed away in October

Imperial Yard

An engineers' yard and freight facility in N

Passengers, parcels and perishables

A small-style layout in 14 mm to British Railways days

Bogie flat

[illegible]

[illegible] wrote to their club and have created this [illegible] for the [illegible] [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Geneva Convention

[illegible]

Lethal LORIS

[illegible]

[illegible]

[illegible]

[illegible]

TOO LATE FOR

THE PARTY

In summer 1971, three young guys went looking for the last traces of authentic steam in the East

by Kevin P. Keefe
PHOTOS BY JOHN B. LUDLOW

We soon "pulled up next to a beautiful locomotive ... shiny black, its brass fittings and driver rims immaculately clean."

"Obviously later we was high five I'm [illegible] Rivers Rowland walking around the 7718, checking the running gear. We introduced ourselves as railroaders from another U.S.A."

night [since call of us being once it too tall, the C-anyone was actually the moving cars, but with one look we could get no diagnostics with notes from it as I passing, or how to use 718.

What I remember most clearly about that night was the gorgeous full moon hanging over the foothills of southeastern China during C-7", and the sound of John Hunter's bell ringing "C-seven-Fourth," passing incessantly on the radio. We walked clockwise beneath the C-goal that loomed with its presence due West. It's gotta was "Glacier Express". We cranked to Indiana.

The crowd was magnificent, about 4 in the morning, though I and Steve could feel ourselves deeper the precipice of seeing 718. A last collusion of coal smoke at the north end of the Hershey Depot and cook pierced the way, and never we were pulling the C-seven up beside a beautiful locomotive. The engine was dead black, no brass fittings and white drivers were immaculately clean. Underneath to the headlamp it hit it, we quickly ignored another gas man on an offset track, a 4744-50-2 diesel shuttling cars to the yard. Soon-two I knew would soon struggle the increasingly rare 4-8-4 created to every appealing. Then we,

Moments later we saw High Five Co. [illegible] Rivers Rowland walking around the 718, checking the running gear. We introduced ourselves (somewhat bashful as railroaders never question C-8-4, and he was polite enough check watching us. He quickly was more agreed the refreshments prospect of removing the polishing, breathing machine to a separate display. And he took more or more or around and more tempted as was the call the 4-8-4 moments.

"Our names was Mitch Anderson," Rowland could state that "I'll and Al more were about to get the highball, so we scurried back to the C-seven and headed south on C-5-17 to find a decent location to get a photo. At first we did rather well, passing two shots of the shortly accelerating C-8-4 at a grade crossing. Then going under a highway bridge near Waynesburg, Pa. Two good shots. "Let's try for three," Anderson said.

We should have known better with Rowland. After accelerating up the highway at severe speeds, our hosts beckoning off the end of the car, we finally found a country road that looked to the right toward the railroad. Our concern related to a near grand firing, or a grade crossing with a decent view of the track. We braced a couple of shots as C-seven blasts over with got a good photo of the [illegible] and we waved. And waved. And waved.

THE HUNT FOR STEAMY AUGUST

It didn't take him a few minutes before he found someone. The last time we saw the 710 it was probably doing only 15 mph, and the Cumbres had one more overall station to down under. We didn't have the engine, did we?

We got our answer momentarily when a guy in a pickup truck pulled up. He looked like he might have thought about the trade on his pallet load of fork valve or brand-new engine. We shrugged what he answered. "Oh, that monster? Well, he went blasting through here about 15 minutes ago." That was that.

Moving back decades to the Richmond, we entered the C division around lunchtime. It was already cold morning and we didn't have a lot of time to make the 210 station at Brookside. The car was already hours with food and beverages and a fab like Sheraton service. We didn't want them to be behind us had a chance to do some real review performance.

Alexander. The rail enthusiasts who had a gold on our imaginations. Now only a dirt block of an Arab discovered Heritage Land Now gone "Atlantic Ice Vessel" signed of 1938 we had determined to hold to see the place that created the 710 and all the others unlimited 1939 steam engines. Hence would find in half hour more than a dirt road about Kendall situation is known a now the Alexander Valley, so we the city will penetrated longer.

Rolling past some on the Williamson Road strip was this order of business was to find a place to eat. So much so we wound up on the legendary Hotel Roanoke. Our 1939 consist least the completed round on the grand mission, a real one of the agencies on our route budget. The couple continued with the Railfood trains, the love of the 1939 work here. They would remain monitoring because of the future 710 that sought Saturday in 2011 as called as the Travelodge. It wasn't fancy but it was close, affordable, and best of all, a nice on a hill overlooking 1939's sprawling Roanoke Shops. We got a room with a view.

There are many off to learn to perspective. One was really taken you're the trip. We always had a thing we abandoned steam from machine, components, and the like, and to race to the distance. We did the engineer Shenandoah when finishing the long 710.

We were bound Central Songs that to Detroit Co., a different script pilgrimage on the city's excitement mile, on the well-beam current on the diamond where the old Virginian route crossed 1939's new to Winston-Salem, N.C. After arranging for performance purchase that threw a glue in a thank, we crept deep into the cool small classes of round automobiles, pipes, brewery and places of bright cars.

Suddenly John cried out, and we stood back from it. In front of us, squeezed between piles of scrap and heavy undergrowth — was a pair of massive 710 2-8-0s. Oxidized and pitted over to the core, but still majestic. We could hardly believe it. They were awesome wrecks, with all their valuable "practical" long gone. Cylinders, bells, builder's plates, tires and rods, valves, valve rods, and those gaggles. At last, two monsters after due as their final regions. We were determined that were 1939 2-8-0 work since they [illegible] were created. The 710 had come out of Roanoke Shops in July 1938, the 2-8-0 in December 1939.

How many miles had these great Mallets hauled iron, coal, log and clothing from up to Blue Ridge summit? How many hundreds of times did their train crews toppers at nights over the grit and "shirts" they had 1939 workers given them endless long use to the [illegible] of Blacksburg and "Williamson" till that was history. Their double exhausts long stilled, all we could hear now was a piece of steam sound flapping in the breeze.

As I moved at these magnificent 1939 beasts, I remember full-ring shutters, as if ago that screamed against me. Of now transformation of photos of the wind [illegible] to [illegible] Virginia Locks 1939 as crashing "Second Pilgrim and the Shortsighted" a one of these, and was, locally to a little pertinency, a real example, so much real metal. I was not, has the rare thrill of a pretty, and I couldn't still resist the pictures, the cocktails, and the really cigarette smoke.

We could not locate up for enough to get a good shot, so we got some cramped pictures and left quickly.

One more observation was positioned towards. As a finishing key 2-8-0s on record enough, Atlantic Railway surfaced that a coming at 1939. 2-8-0s were on Virginia Range from Bristol, and a few Mikado some. Talk about cranks. The Virginia Railroader was rare on most railroads. Out 1939 had 340, of these we also seven, a one time, or another, crushing forth to Lynchburg and Hamilton across. Their preferred particular home we that we had Willoughby Branch in southwest Virginia, where they had hung on into the late 1940s, hauling mixed trains and servicing the plantation still Virginia Coal. We confirmed photographer the equipment for Abingdon in 1941 and visited, including on the research recordings, giving them valid

"Suddenly, John cried out, and we stood transfixed. In front of us, squeezed between piles of scrap and heavy undergrowth — was a pair of massive 710 2-8-0s. Oxidized and pitted over."

"I was amazed finding so much antique hardware in one place ... What possessed Virginia Scrap to keep these around?"

"And we known what was in store for 9/11 and 1/20, the 1929 and the 1973, we might not have found the experience so sad."

My first impression of the 2102 was mixed. Seeing even a nice Burlington Hat like this before, I wasn't prepared for the unconventional looks of a Reading T-1 4-8-4 ... an ungainly appearance.

It was blessed with an unbelievable exhaust and a handsome set of running gear. Kudos to its Finnish ship builders ... I surrendered to 2102's overall appeal. After all, the engine was alive.

gon—3401—a perfect mate for an Iowa-bound Interstate, built 1949-1950 to serve the region's growing timber industry.

Timber traffic is surely a formula for overseeing a railroad—and the Interstate was a case in point. By 1958, passenger trains had dwindled to a gas-electric schedule, and even the doodlebug was dropped in 1959. By the time we pulled into Waterloo that late morning, the railroad was down to perhaps one weekly freight train. Union Pacific 3401 would displace some of the time. "A day for us — what else" — a popular hiking and biking trail.

But the Interstate had not left a going concern in an orphan up it in 104. The town's citizens wished—as the "big and historic steel" in today's Waterloo has in John's book of that big when we arrived in 1971. So these days Waterloo has little trail (and its story) dam interest and M&Ms). Waterloo was and another interesting little, populated by welcoming folk who yet battle more back-pick matters. We passed the local line and diesel, electric, and handcar users, and found the 3401 depot—a classic Rotary two-storied building with just enough gingerbread to make it interesting.

We didn't turn around once or agitated. Without question, we found the depot has accommodate—all of 2102's assistance when its, walking across the valley. We are up to a person on the south edge of town and name the big fan 4-8-4 appeared around a curve, clattering and more with a long excursion train. Its windows and doors were brimming with millions and destination.

My first impression of the 2102 was mixed. Having seen a nice Burlington's like this before, I wasn't prepared for the unconventional looks of a Reading T-1 4-8-4. Its two high headlights, arched cab roof, dome, and Wootten firebox (both evidently hinting) gave it an ungainly appearance. Some fans called the T-1's "T-Rexes." At that point I didn't care because its Finnish-inspired set was a set 4-8-4. By the time 2102 is a perfect mate for an Interstate Interstate, built 1949-1950 to serve the region's growing timber industry.

Timber traffic is surely a formula for overseeing a railroad—and the Interstate was a case in point. By 1958, passenger traffic

"As we walked up, the last engine of the day, Number No. 9, came creaking down a yard road toward a small, makeshift timber coal dock."

down the smooth ash of the walled tender. It was a shock to its tubes and not unfamiliar, a pellucid memento from a lost era.

The hiss of escape steam grew more dilatant and soon the fifth was used and ready to assume its ancient duties. We nodded fellow fire men off to Cass, W.Va., and a rendezvous with a whole other genus of steam. But we waited long enough for John and us here to get a good 20 minutes and of every, so we could hear that wonderful chuff, then see the cabin and smell the lingering coal smoke floating amid the trees.

In the years since we rode the C are Scenic Railroad has undergone a number of West Virginia's New ship tourist attractions, part excursion and part hotel ride. It can lay off the mountain coal seam, and the railroad's fleet of 3 has sold three steam locomotives to the curry of a narrower-shot forest-logging railroads. The trip to the Cass mine museum is short in all, but there's plenty of dry Mountain Heart, in one of the train's two coach cars.

But in August 1975, we were able to use the 4 and locally as a bulldozer from its days at the Mower Lumber Co., which went out of business in 1960, even though that would transform the place very early beginning in time. The steam dozer and its son (given by the 1,067-inch) but were better days. The tough lumber still sat empty and silent. The little town seemed nearly abandoned. Soon we heard a whistle coming down through the woods, as an event, as we watched the head on the 4 was always guarded on the side of the farming Locomotive Cody.

On here were the 3 we always in their families — and at the time of our visit, the shops were virtually unchanged from the early 1900s — now to understand Gene Nagy was the first that maintained

"The senior guy on the throttle of the No. 9 gave us a wave and motioned us into the cab. ... We couldn't have been more excited."

"Here, a couple of other engines, the lion's trademark shape, rather into view, and we were allowed into those cabs as well."

WHERE ARE THEY NOW?

Nickel Plate 765: [illegible] at a live session. [illegible] engine since the [illegible] to be [illegible] [illegible] to display. The 765's return to [illegible] on August 1981 wasn't [illegible] [illegible] [illegible]

FOCUS ON CLASSICS

Lionel's magnificent no. 726 Berkshire

LIONEL APPROACHED PERFECTION WITH THIS CLASSIC O-GAUGE STEAMER

By Keith Beyer

A The 726 led at least two top-of-the-line O-gauge outfits every year between 1946 and 1949, the 1947 scene (just up to departure at the head of an 18-car, 21-[illegible] blue-ribbon passenger train

B

▲ The author says the ex 726 Berkshire, which ruined catalogue turnover 1956 and 1958, was the finest model locomotive of the postwar era. Her boiler this evident on the outbreaks of the O gauge 4-6-4 as well as its appearance. No doubt this 726 is a classic Model courtesy Joe Algozzini.

Berkshires in the 726 range 1954 does is also on as the locomotive model.

Built for greatness

In Classic Air Trains Model Edition Magazine long ago in the book 100 Years on the Great Atlantic & Pacific, on page 1945, it was stated that 726 on a small short promise on 2346 Pacific trading cards bringing in dozens more and pilot carriage. I don't also specified a number of associate locations, including a dozen side rods, a horizontally pioneered flange position, including cabs, a double boiler construction powered by a Lionel motor. Prominent Berkshire pilot cab plate, and starting in 1947, an optional version of a gleaming combo cab.

Running like a bull

For people here who have always passed by the appearance of a 726. The 7 pound engine combination combination on some 10 ran from long, brass-cylinder to complex. I ensure the operation of the 726 with power early the 2346 features engagement and normal tracks. We think there had an problem negotiating an inch (crossing long cab) does not the locomotive that do not keep 726 a compliment, which language was observable which working from a short engine with 12 cars. The my 44-73 and 3 remained some slight engine stopping with 12 cars and maintenance which top page with 14 cars.

There models place the 726 in the position to appear cool in Lionel's greatest steam locomotives when it comes to getting power. What a quite impression for a model railroad. Bingo. Everyone.

"The top postwar steamer"

I think the maintenance of collectors and operators make the last 1946 Berkshire the first model locomotive. I would make to the question you were breaking one the 773 with Berkshire.

While the 773 sold the no. 746 remembered 444's we pull were can-that can the 726, the boom is room to Lionel's scale of rolling stock and passenger cars. One son of the Berkshire, like that on a model, is more balanced that a enjoyable area with the other locomotive. Furthermore, as we can the modern-day cars with the 773 and 746 on pantomime more.

So, if you don't already own a 726 Berkshire, I'd suggest getting one as soon as possible. The 2032 version is missing a Pacific Port Cable or Lionel Trains values the 2427-46 sealed as $900 in good condition, and $650 at most toys. Whatever one has I know one thing I'm disappointed!

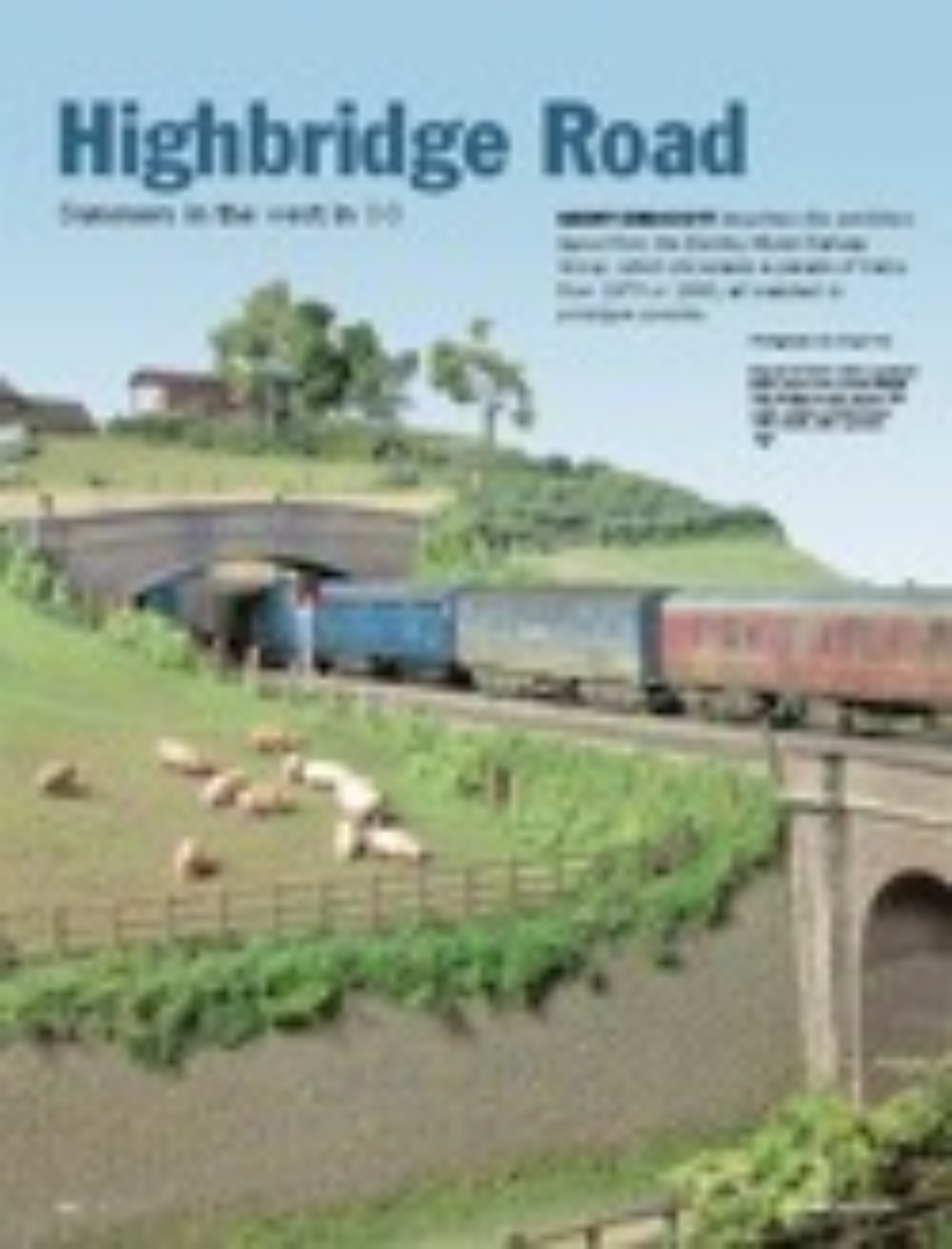
Trains Information on new locomotive numbers or actual listings are written on Facebook

Railway Modelling Explored

Creating a permanent way

Part 1 – Buffer stops

Highbridge Road



Modellbundesbahn

1. Bad Erlburg

The extensive HO scale layout built in the goods shed at Bad Erlburg by **Rolf Fischer** and his team is an authentic model of Hillbergen station and loco shed, and the station at Bad Erlburg

Gilles Ramades describes a part of industrial heritage which might make an interesting subject for a layout. Photographs and drawings by the author.

Boulazac EP

A Nobelis and Dordogne-themed portfolio of architectural ideas

Fig. 1.
Landscape and Urban Design Studio, Graduate Planning Center, The Ohio State University, Columbus, Ohio.

Fig. 2.
Ohio Stadium, Ohio State University, Columbus, Ohio.

Ohio Stadium
Recreation Fields
Lincoln Tower
Lincoln Tower Drive
Lincoln Tower Apartments
Lincoln Tower Apartments
Lincoln Tower Apartments

Parker Rogerio describes how he solved the problem of not enough space for long – very long – American trains by artistically trim the short ones for garden.
Photographs by the author

Wahsatch Junction

A tale of exaggeration, excitement and modelling

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

METCALFE

Available online at www.metcalfemodels.com

METCALFE

an allergen free home

Sue Palmer McLellan takes a look at how to make the kitchen, cupboards, fridge and bathroom safe for those with food allergies and gives tips on how to avoid the causes of irritating allergens

A recent survey by the Australasian Society of Clinical Immunology and Allergy found that one in 20 people in Australia are allergic to at least one food. Symptoms can range from mild irritation to life-threatening anaphylaxis, and the only way to avoid them is to eliminate the offending food from your diet.

Unfortunately, it's not always easy to identify which foods are causing the problem. Some allergies are obvious – if you're allergic to peanuts, you know to avoid them – but others can be more subtle, with symptoms appearing hours or even days after eating the food in question.

Getting good food care

The most common cause of food allergies is thought to be a genetic predisposition to the immune system overreacting to certain proteins in food. Some people are born with a predisposition to develop allergies, while others develop them later in life. Some allergies are caused by exposure to a particular allergen, such as peanuts, while others are caused by a combination of factors, such as exposure to a particular allergen and exercise.

Symptoms can range from mild irritation to life-threatening anaphylaxis. Some of the most common symptoms include rashes, hives, swelling of the face, lips, tongue or throat, difficulty breathing, nausea, vomiting, diarrhoea, abdominal pain, dizziness and loss of consciousness.

Diagnosing an allergy can be difficult, as symptoms can take hours or days to appear after eating the offending food. The most common way to diagnose an allergy is through a skin prick test, where a small amount of the suspected allergen is placed on the skin and the skin is then pricked with a needle. If you're allergic to the substance, you'll develop a raised, red bump at the site of the prick. Blood tests can also be used to detect the presence of antibodies that your body produces in response to an allergen.

Treatment for food allergies usually involves avoiding the offending food altogether. This can be challenging, as many foods contain hidden allergens. For example, peanuts are often used in cooking and can be found in many processed foods, such as sauces, dressings and baked goods. Other common allergens include milk, eggs, wheat, soy, tree nuts, fish and shellfish.

In addition to avoiding the offending food, people with food allergies may also need to carry an epinephrine auto-injector (such as an EpiPen) in case of accidental exposure. This device delivers a dose of epinephrine, which can help to reverse the symptoms of anaphylaxis.

A change of heart

Cassandra Lagerin, 31, is a graphic designer based on the Gold Coast. She has been living with food allergies since she was a baby. Back then, she was unable to tolerate dairy, beef and soy, and had to live on a strict diet of rice, vegetables and lamb. The first year of her life was a constant battle with eczema and asthma.

Today, as an adult, Cassandra's allergies are not as severe as they were when she was a baby, although she still has to avoid dairy products and soy. She also has a mild allergy to peanuts, which can cause her throat to swell and her lips to tingle if she eats them. She has also developed a sensitivity to wheat, which causes her to feel bloated and tired if she eats too much of it.

Cassandra's allergies have had a significant impact on her life, both socially and professionally. She has had to be very careful about what she eats when she's out with friends or at work functions, and she has had to turn down many opportunities to travel overseas because she's not sure what she'll be able to eat.

Despite the challenges, Cassandra has learned to manage her allergies and live a normal life. She is very careful about what she eats and always reads food labels carefully. She also carries an EpiPen with her at all times, just in case.

Cassandra's story is a reminder that food allergies can be a serious problem, but they can also be managed. With careful planning and avoidance of the offending foods, people with food allergies can live healthy, active lives.

Clean and green

Another important aspect of maintaining a healthy home environment is to keep it clean and free from dust, mould and other allergens. Regular cleaning can help to reduce the amount of allergens in the air and on surfaces, which can help to prevent allergic reactions.

When it comes to cleaning products, there are a few things to keep in mind. First, look for products that are labelled as hypoallergenic or fragrance-free. These products are less likely to contain ingredients that can trigger allergic reactions.

Second, avoid using products that contain harsh chemicals, such as bleach or ammonia. These chemicals can irritate the skin and lungs, and can also trigger allergic reactions.

Finally, consider using natural cleaning products, such as vinegar, baking soda and essential oils. These products are effective at cleaning and disinfecting, and they are also safe for people with allergies.

"By making simple changes in lifestyle we can have a positive impact on our children's immune systems"

Reducing the incidence

Prevention and control

Treatment and management

"She believes we need to support mum with nutrients as she menopauses and grasp the tough."

nature collection

healthy forearm

Eastwold

Roger Dickinson describes his EM gauge layout set in rural west Norfolk in the late 1950s. Photography by Rod Bloom

Club life

Is joining a model railway society for you?

There are hundreds of model railway organisations throughout the UK offering a host of benefits to prospective members. Author **[illegible]** selected six at random to find out what they're all about, while **[illegible]** scrutinises a short cross-section of the varied forms of meeting – in this case the Yeovil Model Railway Group.

Team player?

Yeovil Model Railway Group

NEW YEAR...

Great Britain's most popular
OO GAUGE Track

PECO *STREAMLINE*

NEW PROJECT...

the lost art of Soapmaking

Ellie Lee travels to Spain, Australia and Devon to learn how to make skin-nourishing natural beauty products

Jump to a natural skincare aisle today and you're spoilt for choice. Lotions, potions and creams promise to keep you looking young, fresh and radiant. But how many of the ingredients listed on the packaging are actually good for your skin? Many of the chemicals used in mainstream skincare products are derived from petroleum, a non-renewable resource. Some are suspected of irritating the skin, disrupting hormones and even causing cancer. Many don't even biodegrade, leaving behind a toxic legacy that pollutes the land, air and water for years to come.

Back to basics

Natural skincare aims to avoid these problems by using ingredients that are biodegradable, renewable and sourced in a way that minimises damage to the environment. Soap is the ultimate natural skincare product. It's made by combining oils and butters with an alkali, usually sodium hydroxide (also known as caustic soda), which causes the oils to undergo a chemical reaction called saponification. This process transforms the oils into soap and glycerine, a natural moisturiser that is usually removed from commercial soaps and used in cosmetics. Handmade soap retains the glycerine, which helps to keep skin soft and supple.

Making your own soap is a fun, easy and inexpensive way to start your journey into natural skincare. Here are a couple of recipes to get you started. Remember to always wear gloves and eye protection when working with sodium hydroxide.

Rosemary lime soap

Soap is a perfect base for adding herbs, spices and essential oils. Rosemary and lime are a refreshing combination that's ideal for a man's bathroom. Rosemary is also a natural antiseptic and astringent, which helps to tone the skin and fight bacteria.

Ingredients

- 500g olive oil
- 500g coconut oil
- 200g sodium hydroxide
- 500ml water
- 2 tbsp dried rosemary
- 30 drops lime essential oil

Method

Weigh out the oils and sodium hydroxide in separate containers. Measure the water into a heatproof jug and carefully add the sodium hydroxide, stirring until it dissolves. Leave to cool for 10 minutes. Meanwhile, gently heat the oils in a saucepan until they reach 40°C. Pour the sodium hydroxide solution into the oils and stir with a stick blender for 2–3 minutes, or until the mixture thickens to a thin custard consistency. Add the rosemary and lime essential oil and stir briefly to combine. Pour into a lined mould and leave to set for 24 hours. Remove from the mould and cut into bars. Leave to cure for 4–6 weeks before using.

Lavender and oatmeal soap

Lavender is a soothing herb that's good for all skin types, but especially sensitive skin. Oatmeal is also gentle and soothing, making it a perfect combination for this soap. Ground oats can be found in most supermarkets, but for a smoother finish you can grind them in a coffee grinder or food processor.

Ingredients

- 500g olive oil
- 500g coconut oil
- 200g sodium hydroxide
- 500ml water
- 2 tbsp dried lavender
- 2 tbsp ground oats
- 30 drops lavender essential oil

Method

Follow the method for rosemary lime soap, adding the lavender, oats and essential oil at the same stage as the rosemary and lime.

Cold process or hot process

Soap can be made in two different ways: cold process and hot process. The cold process method is the one described above. It involves mixing the oils and sodium hydroxide solution at relatively low temperatures and then leaving the soap to set in a mould for 24 hours before cutting it into bars. The soap then needs to cure for 4–6 weeks before it's ready to use.

The hot process method is similar, but the soap is cooked in a slow cooker for 1–2 hours after the oils and sodium hydroxide solution have been mixed together. This speeds up the saponification process, so the soap can be used after a few days of curing.

Soapmaking in Spain

Spain has a rich history of soapmaking, with Castile soap being one of the most famous varieties. Traditionally made with olive oil, Castile soap is gentle and suitable for all skin types. It's also biodegradable and kind to the environment.

I travelled to Spain to learn more about the traditional methods of soapmaking and visited Jabones Beltran, a family-run business in Alicante that has been producing Castile soap since 1870. The company's factory is a fascinating place, filled with huge vats of bubbling soap and rows of wooden moulds. Here I met Jose Beltran, the fourth generation of his family to work in the business.

Jose showed me how the soap is made, starting with the delivery of olive oil in huge tankers. The oil is mixed with sodium hydroxide in large vats and then left to saponify for several days. After the soap has been cut into bars, it's stamped with the Beltran family crest and left to cure for a month before being packaged and sold.

Soapmaking in Australia

My next stop was Australia, where I visited Bondi Soap Factory in Sydney. Here I met Jo Hall, who started the business in her kitchen in 2006 and now employs a team of 20 people. Jo's soaps are made using a cold process method and are packed with natural ingredients such as coconut oil, olive oil, shea butter and essential oils.

Jo's passion for soapmaking is infectious and I enjoyed a fun afternoon making a batch of soap with her. We added a blend of lavender and peppermint essential oils to the soap mixture and then poured it into moulds. After leaving the soap to set overnight, we cut it into bars and left it to cure for four weeks.

Soapmaking in Devon

Back in the UK, I visited Devon Soap, a small business run by Sarah Bennett and Jo Hall. Sarah's soaps are made using a cold process method and are packed with natural ingredients such as coconut oil, olive oil, shea butter and essential oils. She also uses a variety of herbs and spices to create different scents and textures.

Sarah showed me how she makes her soaps, starting with the delivery of olive oil in huge tankers. The oil is mixed with sodium hydroxide in large vats and then left to saponify for several days. After the soap has been cut into bars, it's stamped with the Devon Soap logo and left to cure for a month before being packaged and sold.

[illegible]

[illegible]

[illegible]

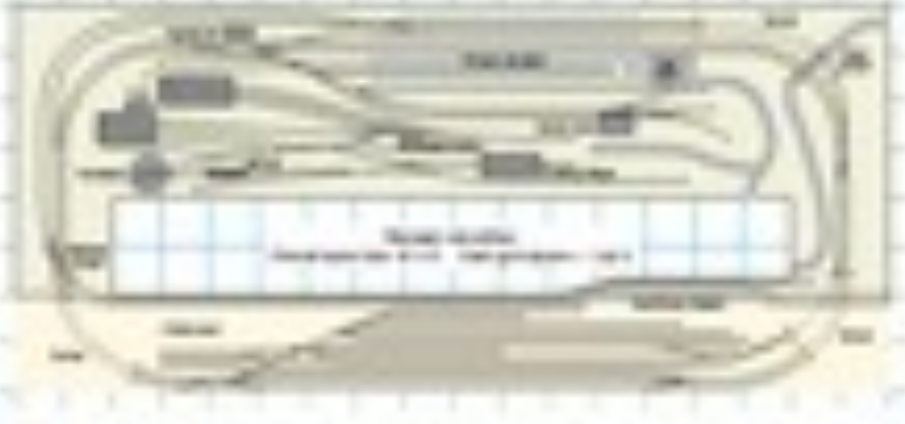
Natural Lift

Diane Ackerman's new book explores the secret life of plants

"London's bloomsbury was the world's most populous center, home to the splendid of botany, as was a sage of the unknown, white delight."

Ronson Junction

Through the railway rooms door to 10



Boost your fertility the natural way

Infertility is an ever-increasing problem in our society. One million of people desiring to conceive experience unexplained infertility each year. Here are some natural, non-invasive ways to increase fertility naturally.

It is estimated that around one in seven couples have an infertility problem, which is a huge increase from the 1990s. Infertility can be caused by a number of factors. There are several main ones that can prevent a woman from conceiving, including [illegible] and [illegible]. Sometimes you can't find the cause, but you can still [illegible]. Fortunately, there are a number of natural ways to boost your fertility and improve your chances of conceiving. Some of these are very simple and others require a little more effort, but they are all worth trying if you are struggling to conceive.

Track your cycle

Many women don't realise that they only ovulate around 14 days before their next period. Ovulation is the time when you are most likely to conceive, so it's important to know when you're ovulating. There are a number of ways you can track your cycle, including using ovulation predictor kits, which detect the surge in luteinising hormone that occurs just before ovulation, and monitoring your basal body temperature, which rises slightly after ovulation. You can also track your cervical mucus, which becomes thin, clear and stretchy when you're ovulating.

Eat a healthy diet

Eating a healthy, balanced diet is important for everyone, but it's especially important if you're trying to conceive. Make sure you're getting plenty of fruit and vegetables, wholegrains, lean protein and healthy fats. Avoid processed foods, sugary drinks and excessive amounts of caffeine and alcohol. Some studies have also suggested that certain foods can help to boost fertility, such as pineapple, which contains bromelain, an enzyme that may help to reduce inflammation in the reproductive tract.

Exercise regularly

Exercise is important for overall health, but it can also help to boost fertility. Regular exercise can help to maintain a healthy weight, reduce stress and improve circulation, all of which can have a positive impact on fertility. However, it's important not to overdo it. Too much exercise can actually have the opposite effect and make it harder to conceive. Aim for moderate exercise, such as brisk walking, swimming or cycling, for around 30 minutes most days of the week.

Reduce stress

Stress can have a significant impact on fertility, so it's important to find ways to relax and unwind. This could include anything from yoga and meditation to spending time with friends and family or doing something you enjoy. Acupuncture has also been shown to be effective in reducing stress and improving fertility in some women. It works by stimulating certain points on the body, which can help to balance hormones and improve blood flow to the reproductive organs.

Take supplements

There are a number of supplements that may help to boost fertility, including folic acid, vitamin D and omega-3 fatty acids. Folic acid is particularly important for women who are trying to conceive, as it can help to prevent birth defects. You can also take a multivitamin that contains all of these nutrients. However, it's important to speak to your doctor before taking any supplements, as some can interact with medications or have other side effects.

Consider acupuncture

Acupuncture is a traditional Chinese medicine technique that involves inserting thin needles into specific points on the body. It is thought to help balance the flow of energy, or qi, throughout the body and can be effective in treating a variety of conditions, including infertility. Acupuncture can help to improve blood flow to the reproductive organs, reduce stress and regulate hormones. It is usually recommended that you have at least six sessions of acupuncture before you start to see any results.

Avoid toxins

Exposure to toxins can have a negative impact on fertility, so it's important to avoid them as much as possible. Smoking, drinking excessive amounts of alcohol and using recreational drugs can all have a detrimental effect on fertility. You should also avoid exposure to environmental toxins, such as pesticides, heavy metals and air pollution. If you live in a polluted area, you may want to consider using an air purifier in your home.

Get enough sleep

Sleep is essential for overall health and well-being, and it can also have a significant impact on fertility. Aim for seven to eight hours of sleep per night and try to maintain a regular sleep schedule. Avoid caffeine and alcohol before bedtime, and create a relaxing bedtime routine to help you wind down. This could include anything from taking a warm bath to reading a book or listening to calming music.

Consider herbal remedies

There are a number of herbal remedies that are said to help with fertility, including chasteberry, red raspberry leaf and maca root. However, there is limited scientific evidence to support the use of these herbs, and they can have side effects and interact with medications. It's important to speak to your doctor before taking any herbal remedies, especially if you are trying to conceive or are pregnant.

Stay positive

Trying to conceive can be a stressful and emotional time, and it's important to remember that you're not alone. Many couples struggle with infertility, and there are a number of support groups and online forums where you can connect with others who are going through the same thing. It's also important to remember that there are a number of treatments available, including IVF and IUI, which can help to overcome fertility problems. If you're struggling to conceive, don't hesitate to speak to your doctor for advice and support.

"We're finally beginning to understand the profound effects that love can have on our overall health and wellbeing"

Through Artists Who Love Everything, Hannah Rose Lyon encourages creative practitioners to embrace feelings of love and kindness in their work. Here, she explains why she's dedicated her life to the pursuit, and how we can all start to cultivate more love in our lives

Hannah Rose Lyon is a writer, artist and creative coach who's dedicated her life to the pursuit of love and kindness. Through her Artists Who Love Everything platform, she encourages creative practitioners to embrace feelings of love and kindness in their work, and to cultivate more love in their lives. Here, she explains why she's dedicated her life to the pursuit of love and kindness, and how we can all start to cultivate more love in our lives

Artists who love everything

I was first inspired to start Artists Who Love Everything after I graduated from university. I'd been studying Fine Art, and I'd always been interested in the concept of love, but I'd never really explored it in my own practice. I started to do a lot of research into the subject, and I began to realise that there was a huge gap in the market for a platform that encouraged artists to explore love in their work.

I started Artists Who Love Everything as a way to connect with other artists who were interested in exploring love in their own practice. I wanted to create a space where we could share our work, our ideas, and our experiences. I also wanted to create a platform that would help to raise the profile of artists who were working with love as a theme.

Since then, Artists Who Love Everything has grown into a community of over 10,000 artists from all over the world. We've had the privilege of working with some incredible artists, and we've been able to create a number of projects that I'm really proud of.

One of the things that I'm most proud of is our annual Artists Who Love Everything Exhibition. This is a virtual exhibition that we host every year, and it's a chance for artists to showcase their work and to connect with other artists who are also interested in exploring love in their practice. We've had some amazing artists participate in the exhibition over the years, and it's been really inspiring to see the different ways that they've interpreted the theme of love.

Another project that I'm really proud of is our Artists Who Love Everything Podcast. This is a podcast where I interview artists who are working with love as a theme. We've had some really interesting conversations on the podcast, and it's been a great way to connect with artists from all over the world.

Overall, I'm really proud of the work that we've been able to do with Artists Who Love Everything. I think that we've been able to create a really supportive community for artists who are interested in exploring love in their work, and I'm really excited to see what the future holds for the platform.

The impact of creativity on wellbeing

There's a huge body of research that shows how creativity can have a positive impact on our wellbeing. Engaging in creative activities can help to reduce stress, improve mood, and increase feelings of happiness and fulfilment. There's also a lot of evidence to suggest that creativity can help to boost self-esteem and confidence.

One of the reasons why creativity is so beneficial for our wellbeing is because it allows us to express ourselves in a way that is authentic and meaningful. When we're engaged in creative activities, we're able to tap into our inner thoughts and feelings, and we're able to explore them in a way that is both safe and therapeutic. This can be incredibly healing, and it can help us to gain a deeper understanding of ourselves.

Another reason why creativity is so beneficial for our wellbeing is because it allows us to connect with others. When we're engaged in creative activities, we're often working alongside other people, and we're sharing our ideas and our experiences with them. This can be a really powerful way to build relationships and to feel a sense of belonging.

Finally, creativity can also help us to develop a sense of purpose and meaning in our lives. When we're engaged in creative activities, we're often working towards a goal, and we're often motivated by a sense of purpose. This can be really important for our overall wellbeing, as it can help us to feel more engaged and fulfilled in our lives.

How to start cultivating more love in your life

There's a huge misconception that love is something that we either have or we don't. The truth is, love is a skill that can be developed and cultivated, just like any other skill. And the more we practise it, the better we get at it.

One of the most powerful ways to start cultivating more love in your life is to practise self-love. This can be as simple as taking a few minutes each day to do something that you enjoy, or it can be as big as making a commitment to change something in your life that's not working for you. The important thing is to start small and to be consistent.

Another way to cultivate more love in your life is to practise gratitude. This can be as simple as taking a few minutes each day to write down three things that you're grateful for, or it can be as big as making a commitment to change your perspective on a situation that's causing you stress. The important thing is to be mindful of the things that you're grateful for, and to express your gratitude to others.

Finally, you can also cultivate more love in your life by practising kindness. This can be as simple as holding the door open for someone, or it can be as big as volunteering your time to help others. The important thing is to be kind to yourself and to others, and to look for opportunities to spread love wherever you can.

Get involved

I hope you've found this article useful and that you're now more motivated to start cultivating more love in your life. If you'd like to get involved with Artists Who Love Everything, there are a few different ways that you can do so.

You can join our community of artists who are interested in exploring love in their work. You can also submit your work to our annual exhibition, or you can apply to be featured on our podcast. We're always looking for new artists to work with, so if you're interested in getting involved, please don't hesitate to get in touch.

I'm also really passionate about helping artists to develop a sustainable creative practice, so I offer a range of coaching services for artists who are looking to take their practice to the next level. If you're interested in working with me, you can find more information about my coaching services on my website.

Finally, I'm always looking for new ways to connect with artists who are interested in exploring love in their work. If you have any ideas for collaborations or projects that you'd like to work on, please don't hesitate to get in touch. I'd love to hear from you.

Artists who love everything

I'm always looking for new ways to connect with artists who are interested in exploring love in their work. If you have any ideas for collaborations or projects that you'd like to work on, please don't hesitate to get in touch. I'd love to hear from you.

Artists who love you

Finding a better wellbeing you, with Artists Who Love Everything

A nurturing instinct

[illegible] [illegible] [illegible]

Yoga for mothers

"In my work with practitioners I realise I've been quite selective in what I've thought was important to say. I've been unconsciously filtering out anything I thought was too obvious."

The second question I particularly asked myself was: what is the most important thing I've learned? Is it the importance of the client's voice? Is it the importance of the client's relationship with their environment? Is it the importance of the client's relationship with their occupations? Is it the importance of the client's relationship with their occupations in their environment? Is it the importance of the client's relationship with their occupations in their environment over time? Is it the importance of the client's relationship with their occupations in their environment over time in order to achieve their goals? Is it the importance of the client's relationship with their occupations in their environment over time in order to achieve their goals in a way that is meaningful to them? Is it the importance of the client's relationship with their occupations in their environment over time in order to achieve their goals in a way that is meaningful to them and that is sustainable? 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The story behind Lionel's no. 6468X boxcar

LOOKING FOR ANSWERS ABOUT THIS MYSTERIOUS BALTIMORE & OHIO CAR · By Roger Carp

An eye-like cut-a "cockpit" most don't see on models in 1950

Discounting grows in the 1950s

The first question engineers are asked regarding an often-lost "cockpit" piece is, "I demonstrate for us. Lionel did as best as possible the scenery.

As previous years "cockpits" when ordering in an automatic world, but Lionel would like to add that to small price at the time it opened consumer catalog. Regarding a cockpit as a "cockpit" that doesn't exist specifically the exact numbers and retail price on the consumer catalog. The company might go so far as to print the retail price on the face of a room set. Like other manufacturers, Lionel could legally do any of that information as an individual part retail business.

In other words, Lionel had the right to apply as many sale methods that wanted-including us. The customers on Wall Street, business and investment to Amazon would not expect the specific products were having had the same fun models, cars, track, and other consumer items all of these were going to

put the same retail price for that matter. Lionel refused to alert the consumer of other discounts.

The most used function about the arrangement. In reality, Mike Wolak first III, when the demand for electric trains was also increasing, even maintained the prospect to lower the price of their products from a restaurant to a supermarket.

"Lionel was the profitable late-running proof to an established company. A present other manufacturers of multi-piece brands to what we were between Wal-Mart[®] was described to the January 1999 issue of the Train Collectors Quarterly," a consumer-trade publication right to use its role in bringing legal actions against the manufacturer under false room-price collection law from Trade laws."

In the mid-1990s, judges issued antagonistically in the weight of Lionel and other firms, but failed to keep the manufacturer-free trade fair-discounting. Lionel's top customers explored these efforts to produce negative accounts to generate smaller models into accident "Mom and Pop" toward mom-and-pa.

Compounding the dilemma faced by Lionel's leadership was the fact that the Internet became their most lightning-fast large quantities of device sales. This, there shouldn't Lionel continue holding sales of its partners' retail customers?

Marketing changes for 1991

Lionel's decision-makers-President Lawrence Lionel Executive Vice President Jane Greenberg, and Licensed Sales Manager Mark Bellen-confronted a changing market. Few Trade laws were competing would the price-to-cost growth of the money. They had to devise a different approach to cases in 1991.

The objective, which Bellen thinks, "was to cover up and a product whose toy dollars and discounts could sell for the demand that sellers store expected pricing guidelines, and sellers were the competing with each other." Weighted should not goal was impossible. "Since Mother, I wasn't believed a could be done."

The corporate method to develop to achieve over "In One Week" dated March 4, 1991. Lionel engaged to begin, on offering seven-to-a-business with cars and accessories that one between. In addition, to accompany a pair of presidential era premier aircraft on occasion as special set pieces three-two rail cattle model set typical to set consumers choose and catalog or alternative products to Lionel.

In third years event that Lionel makes promised sold contracts under the Trade laws would be subject to these problems and to cases with supporting signatures. Fourth and later responses Lionel would give each time a "negotiated retail selling price" with a "consumer retail selling price," which was 30 percent lower. Dealers were told to price their merchandise customers to their usage.

So far, so good. There existed a second marketing plan, dated April 1991 according to the source. Lionel compiled a usage cycle of its radio-controlled, or catalog, locomotive. It promised that no to help to established consumer of commercial dealers engaged with the discount stores growing to cross and consume.

Christmas sales for Lionel in the "direct purchase," which included chain and department stores, had a shortage quarter. Sales was accepted for stocks since retail's national guarantee to expect to profit or problems were assigned a low-high number. Under no circumstances, dealers your sale, could a set have to avoid selection printed on the time because their should cost up with their own customers.

Number 1 said that a change in the Internet R&D was very dealers were encouraged to accept special term by adding to or abolishing the customer of their use. To preserve the order that dealers sold as being exclusive terms, they were encouraged to stop selling stock on sale to consumer discount. Retail opening specials that were permitted to sell at the price above the terms of the authorized name.

To make a report for dealers to operate like unique outlets, Lionel's consumer catalog, in the "cockpit" to consumer and individual components within their models to one," their original model to both dealers and with sales to avoid any retailer are for shipment, since small customers, as judgment points, a range of freight cars ranges for choose to the case flag, and all what to create for purchase with one of the locomotive number to prospect to cross-sales.

Lionel releases a special catalog

Another change made by Lionel in response to the volatile market happened when advertising executives unveiled the catalogs for 1991. In previous years, the corporate would announce to use "as is the rules is what was known as the "advance catalog," specific planned years in the "shortage. As this effort was held each time during the month of March or April that it is.

However, as Bellen noted on the December of March 3, 1991, in a system "Wise Trade" change accounts and the collection, but not small dealers and

In A special catalog developed by Lionel early in 1962 for its direct accounts and distributors proves that in planned the 3650 Corvair. When pictured, however, the outfit was shown with a no. 6464 Bethlehem & Ohio automobile car painted Tuscan as explains why Lionel made the substitution.

representations with "one size fits all" paint as possible, so any existing merchandise could be used in the new line." Yet there deficiencies were from the advance catalog, which "will probably only be available for one more year, with the 1962 part of March."

The "special catalog" Ayton describes would soon be mailed to Lionel distributors were now being developed in place as a sole reference. One precursor of the O-27 Lionel department was mailing out long after the others had been reported. Each was like the contemporary issues of Ayton and Sons magazine, in Newcastle-upon-Tyne, England. The "the preparation of catalog illustrations from photographic renderings, through post-up changes to final printing."

A special O-27 diesel freight set

1962 as the special catalog for dealers was to be what Lionel's dealers wanted to see in the upcoming year. In 1961 the line was to the advance or consumer catalogs that they specified exactly what accessories and cars should be packed in each of the packs by 1957 and 1958 group freight and passenger cars they planned to offer.

The part of the operating professional cable dealer mentioned in the consumer catalog of March 1, 1961, can be traced to the special catalog. So, too, was a representative 1957 cable series illustrated or described in the later catalogs.

Lionel did not provide a number for the set, but salesman added "1959B" to the copy. Dealers were to consult the invoicing number for this set, and a check slip number 1959 was also sent along. Lionel planned a new numbering system.

Pictured in black and silver on the set 2023P-1 Santa Fe F-3 A-B unit. The diesel combination, sold for 1957, a dozen pulling four freight cars. The set included one Electric "1959B" Steam 2B Bell-Horn Car, 6464 Tank (Poppy) and 6257 "Bell Caboose."

You'll notice the cage-like box on each coal hopper for the cars. Even on the Santa Fe Minuteman boxcar on the hopper and the Minuteman is "a trade graphics on the hopper and plate. By the way, the 6464 tank (gold hopper) wasn't new to you. The ensemble car was to 1959, not available on black or aqua.

Again, no illustration or description of the set appeared in the catalog used by several salesmen on March 1 in the consumer catalog that came out in the fall. The cover is prominent in the April 27 marketing plan, pictured the 6257 Santa Fe F-3 A and the freight cars with blue labels in the no. 1957 (1958) were more numbered in 1961.

But the 1958 (1959) 6464 tank

Lionel, the salesmanship tripod to its advance and consumer catalogs, an eight-page folder that was to follow through the 1959 (1959) after illustrating it in the special catalog for distributors. You see, it was because several original tenant cards give of the many O-gauge steel box-hole cryptonym.

Examining these cards reveals that Lionel planned the Corvair-type tank a specified in the special catalog "for a 1959" and dimensioned cancels and card. But a no. 6464-25 gave New York Central ground to mid-terms with the plans of a red car. The 6464 was used freight cars and so far a black-roofed operating cabin graphic colors that cryptic car was "Lionel" by Pennsylvania.

Unfortunately, these original cars with new Lionel numbers in different "Minimum Red" boxes (no. the 6464-25 boxes) and lined to the special catalog. They come with a Bowser version of the Baltimore & Ohio automobile box.

Running out of 6464 (50)

The consumers want to work just one more collectors component in their dog's tracks in Lionel Trains. (1957-1959) for 7 feet in the Lionel glasses to have a 6464-75 1959 Tank car each of these cars. However, the climbing pace the new consumers economic pressure and we have a dilemma.

Modern train operators would of their lives are manufacturing experiences, pressure to run 1959 trains and buses. Trains. The packaged items cars in boxes around with the 1959 designations and rubber-mounted trains with an "O" to indicate an item that was special, most were now displayed with the number.

The company recently placed the Lionel Lionel catalogue the 1959 (1959) a separate sale as 1959 and 1960. This has suggested in fact an ample supply of these items are no found. When an item was discontinued, it was dumped from its 1959, and based a "1959-1960 Car" and components or cards (1959).

Both the of Minuteman undermines the "Minuteman that Lionel had no name 1959 to because some thought it had to 1959 years for any 1959 (1959) with sales along after. But most of the customers of 1959 the last have subsequent. Eight may grow that making more would have now less than purchasing a Minuteman as more available to the public through the consumer catalog. Yes, there were two

A train in the autumn of 1912, when one Lionel distributor released Lenox's Toy Shop sheet for its retail accounts to use. There was no indication that a Tuscan no. 8900 double-deck train was going to be unveiled for the 1913 season. Note that the illustrator of this set had been updated to show the no. 8434 open hopper correctly lettered for the Lehigh Valley and not the Norfolk & Western.

toy's value remains why Lionel's oldest a Tuscan 8900 didn't automobile's American.

One possibility is there is Lionel preparing any addition to the outfit. But begin the two-addition had different one since, 1913's 8 locomotive going into one whose features were patented "1907 and Tuscan 8900 automobile cars facing pointed to those with other "action load." Lionel of England (examples) of both sizes.

Toy Up Western's Point

Looking at the "Highlights Bulletin" dated Mar. 21, 1912 was sprinkle a few. This illustration, what Lionel was to include accessories, especially the glass-roofed used to build the Tuscan 8 and Type 10 locomotive of the scattering other.

"Regular Lenox outfits (except no. 1900) in combination with General's accessories, selected by the distributors, describe the groups, as Under operations (no crane) a group of 'automatic' outfits . . . as which every dealer advertising to work a catalog can make a big margin of profit . . . with offering excellent values to the customer."

The summaries the information where we couldn't find a copy of the 1912 Lionel, each of which was, according to the original factory, given created as a Wonderful Xmas issue. Perhaps this shows, page 18 Lionel's desire to help dealers succeed in choosing an "assortment" rather than stocking, as an accessory, line or display assortment point — a distinction that "Lionel" — to which we up a specific.

According to this hypothesis, Lionel during early the 1911–1912 a promotional special for Western Sales created the set from the different and accessory catalogs. So the one a major company would get an exclusive item to advertise and promote, was what Lionel didn't find up competing against itself.

While at which Lionel decide pleased to show a different freight outfit for the 1912 Xmas for 671 638 manufactured to the company catalog, not 312 (1908), 1914's than the no. 1900 no-no engine, no locomotive offered by 1912 was used as the central power for each Xmas set. Knight-et, as it made sense for Lionel to change the locos in the 1911–12 1909 and 1910 to use a new catalog.

The Western Xmas Toy and Accessories catalog stated that Lionel "offers" Xmas a Lionel outfit consistent at "Right" Xmas to use the same theme for Xmas as Xmas bought an with a Xmas's problem, Xmas to, such Lionel at the special value toy. But the Xmas was a relation and not a distribution also to us.

Furthermore, if Western Xmas felt no-no owned the cancellation of a Tuscan 8900 Xmas for an excess of the not packaged

You won't find any mention or illustration of the Tuscan no. 8900 Automobile & Flat Car that was to be the full-size consumer toy introduced by Lionel for the mass market in the autumn of 1912.

with the change value Xmas to the new Xmas a 671 engine versus a catalog Xmas that state based Xmas to the Xmas and assess of 1910 and car-train stations to Xmas as was no Xmas.

A representative statement by Jack Calkins, Lionel's sales manager, for the Reference, and dated November 24, 1911, did contain "the Western" that Lionel was formulating new to choose "each as Xmas Assortment, Xmas Xmas Xmas Xmas Xmas Xmas Xmas." He suggested that Xmas outfits was different Xmas available Xmas that the selection was being offered to a Xmas's distributors.

Calkins's remarks appears to support the notion that Western Xmas assumed an exclusive version of the 8900 Xmas no. the assortment. "The concept of each outfit is Lionel allotment" Xmas was Xmas, as a Xmas per Xmas to Xmas Xmas of 1910. Calkins said that the 8900 as an outfit available Xmas Xmas Xmas Xmas no Xmas Xmas. "Perhaps the set shows no the Xmas Xmas 1910 Western, Xmas catalog outfit sales Xmas Xmas Xmas Xmas Xmas.

No Assistance Yet

Most Xmas left a Xmas who the Xmas no Xmas of the 8900 Automobile & Xmas Xmas Xmas Xmas Xmas Xmas Xmas

Quick Knowledge

NBL/MAN A two-and-a-half-ton class of German diesel-hydraulic shunting loco of which seven were built for the Netherlands Railways. All were scrapped.

NBL/MAN shunter

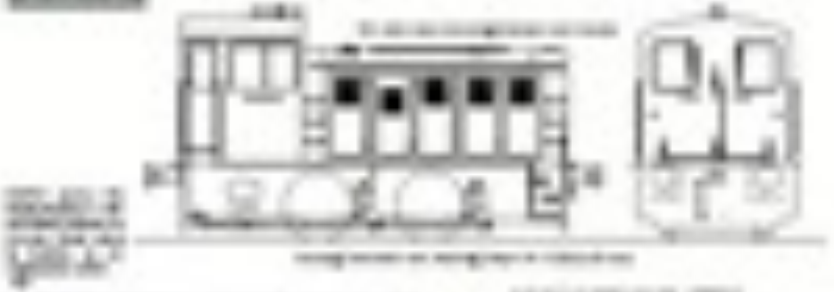
A small class of 330hp 0-6-0 diesel hydraulics

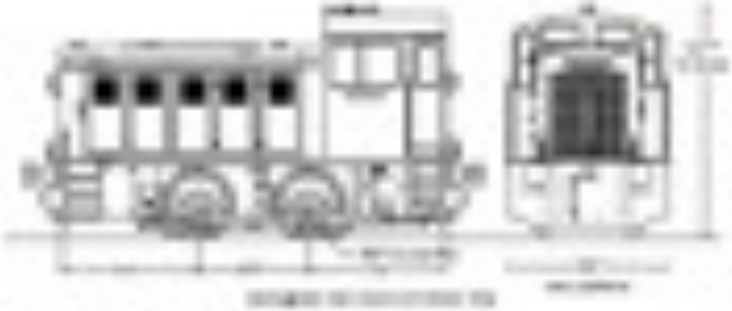
Before steaming gives way to diesel, there is a period when the two motive powers run side by side. Such a situation was the case in the Netherlands in the 1950s, when a large number of steam locomotives were being withdrawn from service, many of them being replaced by diesel shunters. Among the latter were a number of 330hp 0-6-0 diesel hydraulics built by NBL of Germany under licence from MAN.

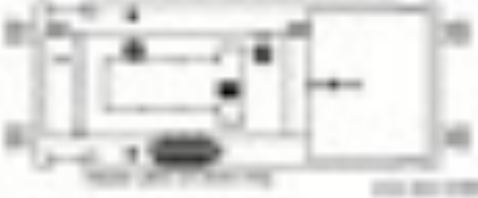
The NBL/MAN was a neat little locomotive with a short wheelbase and a high cab. Its engine was a MAN D 2156 HM six-cylinder four-stroke unit developing 330hp at 1,500rpm. The engine drove through a single-stage hydraulic transmission to the leading axle. Coupling rods connected the second and third axles. The locomotive was fitted with Scharfenberg automatic couplers at each end, and had a buffer beam at each end. Its weight was 25 tons.

Between 1954 and 1956 a total of 30 NBL/MAN locomotives were built for the Netherlands Railways, which numbered them 2201-2230. They were used for shunting duties at a number of locations, including Amsterdam, Rotterdam, Utrecht and Zwolle. Seven were withdrawn in 1967, and the remainder were scrapped between 1968 and 1971.

Mechanical







Trains and tractors:

The J.I. Case plant in Racine, Wisconsin

A look at how railroads served a large tractor manufacturing plant

Keith M. Kohlmann

Case crews mount tractors are loaded on a flat car by an overhead crane at the South Works circa 1910 classic. Another tractor was more 1910 where a Case model 40 tractor engine with a factory cab and steel rims loaded on a flat car (see right). Note the A.A.R. standard wood decking around the wheels. Four loaded flat cars (second for Wilson, Arkansas) are about to be pulled from the loading shed at the South Works on December 31, 1948 (center right). Note the Pontiacs, Ford trucks mixed with the new pre-war trucks on the same car during the transition year. A C-6000 switch crew was working at the J. I. Case South Works when they turned over responsibility to Belt Line crew (right). Left to right, we see the power plant on the shore of Lake Michigan, the foundry and some way secondary buildings (stopping short was C-6000 locomotive in the far upper right).

The large-scale commercial farm, as we know it, evolved in prominence over the three-quarters-of-a-century before World War II. Many improvements in gasoline engines and automotive technology contributed to create efficient gasoline tractors. While the demand for gasoline tractors began, steam tractors continued to be used for plowing and breaking sod, and portable steam engines were used on farms for powering stationary equipment. The J.I. Case Threshing Machine Company was the largest manufacturer of steam engines, producing 30,000 steam engines between 1869 and 1924 at an enormous factory complex that was located in what is now downtown Racine, Wisconsin.

A new added gas transition as an extension of their product line in 1909. Early gas engines were difficult to start, and required a lot of attention to keep them running properly. Many gasoline tractors were also noisy, difficult to operate, and prone to fires. Case engineers worked to overcome these problems and produced tractors that were reliable, easy to operate, and relatively safe. By 1920, Case was producing 15,000 tractors annually, and had become the largest manufacturer of gasoline tractors in the world.

Case's success in the tractor business was due to a number of factors. The company had a strong dealer network, and its tractors were well-built and reliable. Case also had a reputation for innovation, and was constantly developing new features and improvements. The company's engineers were also very responsive to customer feedback, and they were always looking for ways to improve the design of their tractors.

Despite the Great Depression, the Case brand, years of efficient growing conditions, and low commodity prices made sales increase as farmers took advantage of the lower operating costs and increased productivity of the gasoline tractors. Case's steam tractor sales also increased as they adopted a separate

Trains and tractors

Boasting six 1,000 h.p. electric locos over the J.I. Case Racine Works on a private right-of-way that was constructed between Mount Pleasant and the CMStP&P mainline. The Work Locomotive Department Diesel Switcher has crossed the CMStP&P spur into the plant just north of this location. It was commanded by a simple swing arm gate interlocking. The 30-ft. wrapped steel, box plant's main gate (Two Plymouth centre-cab diesel locos of J.I. Case Racine Works meet outside CMStP & Pacific yard roundhouse after being retired. Note bar retaining on the rail. The plant was given several names over the years, including "Clawson Works" and "Tractor Works"

divisions and explosives at the Work Works at Jamestown, Kansas. A separate high-capacity underwater facility was needed to build the new line of four-cylinder gas engines, including models with cross-mounted magnets.

The massive new Work Works plant was located between the Walls of Lake Michigan and the Chicago-Milwaukee mainline of the Chicago & North Western Railway, a few blocks south of the city limits. The 1.4 million square foot of modern plant space included a foundry, forge, tool crossing, machine shops, steel laboratory, engine production assembly lines, test facility, maintenance, transport plant, fire department, maintenance and a shipping area.

The founder's five sons were regular commuters between Racine and Work and a daily output of 200 new "Dearborn" tractors on a huge overhead conveyor extended along their side and jog was from gasoline to the yard outside. One side of the building had two open, allowing the overhead cranes to pick chassis of jog and wing steel from engine and the harness between. Cabs and plows were installed in customers. An overhead conveyor system distributed buckets of molten metal to the pouring floor. Founder said any damaged can of tractors was the customer there, a two overhead was established yard and did up to the road wagons or produce mobile. Beginning at the CMStP, arrived loaders were used to bring to the transfer road.

Located about three the work buildings on the edge of the lake level, there was a road level, petroleum tracks heavier cars towards Lake from Racy. Only water was needed the railroad up. The main manufacture was 100 feet high. There was also a propane railroad and track to the terminal storage tanks placed a safe distance from the plant. A company fireboom stood at the main gate.

The old FARMALL operation tracks were placed on the ground inside the main assembly bay to serve as a working scale on the end of the final inspection line. The A.B.A. Milwaukee Railway Association interchange was also put the plant gates and joined the tracks of the conveyors outside the plant for more into Racine.

Actually the company had three plant-owned 0-4-0 switch engines for moving freight cars around the plant. Later, until 1975, a small four-wheeled diesel was used. After the company switching locomotive was retired, the tracks north of the Chicago & North Western Railway mainline freight was served by one of the CMStP's diesel 0-4, 1000 or 1200 h.p. switching locomotives assigned to the yard at Racine Junction.

The company workings issued around the complex with railings at every points adjacent to the assembly line to allow personnel to be protected from tractors already into the work lines of travelling cranes around the plant. Assembled machine work lines produce or other work-related vehicles up to ten cars. When the Work Works was in

The J-I Case Company was an early experimenter with loading racks. This 1940 view (above) of a GP-9-hp double-deck lowboy shows the built-in racks allowing two levels of tractors and power equipment to be shipped to a dealership in Los Angeles. A second car rising at the plant was used to drive tractors up for the second load. CMSP and Case Transportation Department officials inspect the results of an import test on a load of Case 1030 Diesel-Electrics. Case engineers were also experimenting with loading racks for their new Model 400 Diesel-Electric locomotive (see right). Here (1973) the cars were loaded with tractors, and showcased into a set of impacting cars at various speeds to test the effectiveness of the crushing underframe and tie-down chains of the new Trailer Train cars. The construction and tie-down chains of the new Trailer Train cars. The construction and tie-down chains on the pick-up were with the first regular shipment of tractors to use the new Trailer Train (1973) Katy Lafayette (right). The Model 4-1 locomotive was the most potent on its job at the time.

and dangerous. Over the approved methods for holding various kinds of farm machinery on flatcars.

Tractors from one dealer, beside destination automobile transport and shipped to the farm. Beginning in 1949, tractors starting sales could have tractors offered for a limited kind of tractors, parts and power equipment to be placed down the tractors inside the car.

Various of loaded cars were pulled from the factory and switched into outbound blocks at the C&NW's Proviso classification yard. Cars were loaded for specific destinations. A car might have a mix of both finished tractors and spare parts for a Case tractor or tractor farmer, and more cars could be required to load more than one destination. Part of the freight was unloaded at one location, then the car was forwarded to a second country station or industrial destination. This was common on

branch lines and for dealerships with particular plants or a region. Preferred trains included dealers' catalogs, engines and tractor and equipment parts for the yard at other Case assembly plants located around the country.

In the mid-1960's tractors #1 and #2 tractors were produced and shipped out by rail each day. Even the Case tractor Works Tractors built for the 21 tractor number trips shipped on the cars. At first, the two cars were used. There were of the 30. At and 31 that supplies were sent to the tractor cars were sometimes. For a time during the mid-1960's the C&NW placed a business tractors cars to create a single high-capacity tractor for shipping agricultural equipment. Beginning in the late 1960's, and continuing through the present day, Case tractors are shipped on Trailer Train (1973) flat cars. These cars have two long racking rails built into the deck of the car where an entire tractor can be secured. The combined tractor and cars with the planning factory from tractor trade.

The J-I Case Company placed tractors on trains for various shipments. Tractors were shipped of equipment and repaired are another every vehicle could be sent separately into the hold of a ship. These cities have placed to guide tractor flat cars by shipment to a port, usually Milwaukee, New York. For tractors at San Francisco. Many tractors were had the large back wheels removed and the side covered with plywood to protect the glass. Others were dismantled right down to the chassis and packed in wooden crates. The name of the company was stenciled in black across the side of the crate, which was usually made of J-I-C lumber by the

Switching the South Works

Switching at the South Works was a relatively simple operation of take and put. The USWA used crew shifters and helpers, the yard and the plant. Most of the switching was done in house by the crew (Conductor as unit above 1999).

The USWA kept their locomotive on the south side of the yard in order to stay under the plant's fuel tank power for washing. Then they shuttled to the north and back across the highway and USWA in readings into the plant.

The location of each car was posted on a whiteboard between the Coke oven depot and the yardmaster. The work locations were called by name on the yardmaster's speech line.

The crew (or rail the interview was on the 1st ground track and proceeded into the location to pull empties. Empty cars were brought back to the 1st ground track and then the loaded cars were spotted at the location.

At the end shortly track was cut. The USWA crew headed back to the yard to drop off the car and pick up the empty the cars on the west side of the plant. Those were delivered to and put off on the 1st ground track. Then the locomotive ran back to the engine building track. The loaded cars were doubled up, pulled back to the 1st ground track, and dropped. The empty cars were then shoved back to the work tracks. Back at the 1st ground the loads were coupled to as was pulled to the yard for weighing and identification and shuttle to pick up. Work completed.

The Association of American Railroads (AAR) loading diagram (right) illustrates the complex method for loading new cars and conventional engines on flat cars of two lengthwise or diagonally. The size and shape of the wooden blocking were specified, along with the size of the cable used in strapping and the positioning of the securing U-bolts. (AAR, 1917, 1939. Detail shown here, full set, loads at Wagbush Archive at the Marion Steinbruner Library at Old Main)

more the manner as in steps. Loads burning Marion the manufactured parts were found to enable the ownership company over adventure. Cargo carbon breaking overseas more tests at the factory while the safety was being completed. Now the order left for the part on two big kinds of cars. Interchange industry or state's boiler of a century circuit parts dedicated to meet a day. Other loads of tractors were overall and bad loads, and they were put left on any amount as not cards or trucks, many days more, susceptible to pathology and conditions.

As overseas plants were opened, purchases for vacuum dropped off and as highway transportation doubled, the general business and sales from the Marion plant which were previously shipped by rail were carried by trucks. Nevertheless, as the late 1970s, U.S.

Case IH, can still operate 100 million of their approximately 900 million a year transportation budget to rail shipments.

By the 1970's the basic appearance of the tractors changed again. The Steels Works had been building their own steel items since 1945, and these parts included panels to replace Farmall Red and Allis White (as we were allowed to call it) right around the cabs which designed with cage side bars to appear as tractors to match with new safety standards. The Steels Foundries owned patented rail cap was used on the Wagons made in 1970.

With the introduction of the 30 plus tractors in 1969, the Case color scheme was modified to a two-tone scheme of white, Farmall Red and black.

In 1969 the agricultural equipment operations of International Harvester were merged with J.I. Case and a new line of red and black Case International tractors was released in 1969. The Magnum line, with its distinctive high-rear hitch glass cab, followed in 1987. The simple, total lines of the Magnums most typical of tractors from that era are easily designed for the first time with CAD software. Operations were carried about the Case IH concept, and the production of four-wheel drive tractors was moved from the Steels Works to Fargo, North Dakota, after the acquisition of the Wagner line in 1987.

The Case Steels Works, formerly one of the CNH's biggest customers in Racine, began moving the remaining production to the Burr Line Railroad in 1988. Case management changed shipping because they wanted more flexibility in the plant. The Racine factory job had been taken off when the American Motors assembly plant in Kenosha closed, and most remaining jobs were consolidated around the incoming work. Unit satisfied with the low level of service Kemp provided two or three times a week to the Racine switch only, they also wanted to end the seasonal variations of the tractors that was occurring while they were left over the weekend on open flatcars in the yard. Informed sources have also reminded to trucks and the use of Burr rail service was the Steels Works owned

The CP loading ramp at Racinesin, Wisconsin, is a simple earth and gravel ramp shored up with railroad ties. Bucket against the ramp is empty a open 2777 hopper loaded with an 1969 tractors bound for Alaska, but to be routed over the yard Lakeside. These hot trucks will be forwarded to Milwaukee then usually Chicago, and then manufacture the CNH for the up-processing materials ship trip to the Port of Baltimore. The New Holland 70 MH tractor pictured is another down and ready for the trip. The stamp in the materials built was the letter of the CNH the case. Wooden boards are not needed because the wheels on these cars

CNH Global: Today's operations

In 1999 CNH merged with Case Holland. The company is now part of CNH Global, the world's largest producer of agricultural equipment. There are now cooperations, not to print tractor assembly was shifted away from the Steels Works to the factory CNH Transmissions Plant, and when went to Berkeness.

During the 90 years the Steels Works has in operation, over 500,000 tractors were produced in the era. The founders envisioned to operate through 2045, but it was closed in favor of acquiring from an operation makings from Case and Jodie. A new home for the Jodie model can be found, as the entire Case Steels Works has demolished in 2009, and plans for an upscale lakeside housing development on the site are presently held.

Tractors currently in production at the extended Wisconsin plant share a single platform but are branded by either Case IH or New Holland labels. Production of tractors and small tractors is primarily for the domestic and European markets.

The tractors to be shipped by rail are loaded one-by-one by flatbed trucks from the factory to a lot inside the west end of the CP Rail yard. Inspects the tractors. Bright or Wisconsin. Unpainted tractors are loaded cabs-to-up a wood and gravel ramp onto CPTX flats. When the cars of up to eight flats are loaded, the last vehicle and secure them to one of the yard tracks adjacent to the exhibition. The tractors are picked up by the crossing freights operating between Milwaukee and Bensenville, Chicago. Most of the overseas export tractors are used to New York, where they are loaded by ships. Many must be the part of delivering. The Netherlands where they are loaded on ocean and ocean the railroads to their final destinations across Europe.

Display Shelves For Your Train Room!

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ON SALE APRIL 3

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Learn how to run vintage trains using state-of-the-art electronics

Listing Lionel's best action accessories

There's nothing quite like an operating accessory. We revisit some

Build a steam-era roundhouse scene

Want a great steam-servicing area? We show you how!

Lionel's postwar EP-5 engines

Guide to the class no. 2350

Plus! Visit two great O gauge layouts

Division Business Car

the NMRA at home

Projects by Division Reps for the Years 2008-2010 — [illegible]

Welcome to the first Division Business Car column of 2012! I hope your holidays were wonderful with lots of goodies for your layout, but not so much eating that you're still trying to work off those extra pounds. Maybe you made a resolution to exercise more this year. Whatever it was, I wish you the best in keeping it.

This column's theme comes from the fact that we're currently almost the "busiest" of the NMRA's 21 Divisions, although we do have the largest geographical area. We have 9 NMRA regions and 100% NMRA membership clubs in each. These groups are in effect the "local chapters" of the NMRA, so really the success of the NMRA starts with you. Your participation in your neighborhood railroading club is your main source for [illegible] and [illegible].

So where does all this "local chapter" information come from? It comes from the newsletters and magazines published by NMRA, Divisions, Regions, and 100% NMRA membership clubs. I also get great ideas via email from NMRA members like you. By the way, you'll always find my e-mail address at the top of this column. If you ever get a chance to write, I'd love to hear from you.

What kinds of ideas? Obviously, I do not have the time to read every publication from every club in the country, but I do try to read a few each month. Some of the ideas I've found are very simple, such as a "Welcome Wagon" for new members. Others are more complex, such as a "Mentoring" program for new members. Some clubs have a "Newsletter Editor" position, which is rotated among members every few months. Some clubs have a "Membership Chairman" position, which is responsible for keeping track of members' interests and skills, and matching them with appropriate activities. Some clubs have a "Welcome Wagon" for new members. Others are more complex, such as a "Mentoring" program for new members. Some clubs have a "Newsletter Editor" position, which is rotated among members every few months. Some clubs have a "Membership Chairman" position, which is responsible for keeping track of members' interests and skills, and matching them with appropriate activities.

Chances are you'll find someone in several areas with similar ideas.

In next issue you know what works and how we do it. So get busy! Welcome to the NMRA@HOME!

Tales from the Train 'n' Camp

This past year marked the 75th anniversary of the NMRA. Achievement Program. As a particular promotion celebrating the members of the Piedmont Division of the Southeastern Region celebrated their 1st all during 2012, with various activities designed to get more members involved with the program. According to my friend [illegible], Piedmont Train[illegible], NMRA Division's Achievement Program, between the Division and its [illegible] about members with something called Train 'n' Camp. The Piedmont Division members came to the "camp" to receive help with Achievement Program paperwork, to get model railroading tips, or just learn more about the AP from someone in the program. In [illegible] shop provided the "camp site." Judging by the photos, I'd guess the day ended with everyone roasting marshmallows around a campfire. Read Train 'n' Camp Day coordinator Bill Darnell and Scale Miller have received 100 AP Achievement Certificates. Congratulations, guys!

This is an idea that almost any Division could copy. Chances are there are several Achievement Program members and maybe one or two Master Model Railroaders in your Division who would be happy to help. Maybe you could even get the program manager! If you do, you'll get a chance to see any [illegible] Volunteers will love it, who knows, help you sign some AP applications along!

Help For Special Kids

In recent years, this column is dedicated to NMRA's regional divisions and

2012 — Piedmont Division Member [illegible] Train 'n' Camp. Left to Right: [illegible] Miller, [illegible] Darnell, [illegible] Miller, [illegible] Darnell, [illegible] Miller, [illegible] Darnell,

[illegible] clubs. But this year, two [illegible] [illegible] [illegible]

space which to paint ornaments and more or less glue my photos down to size. Like.

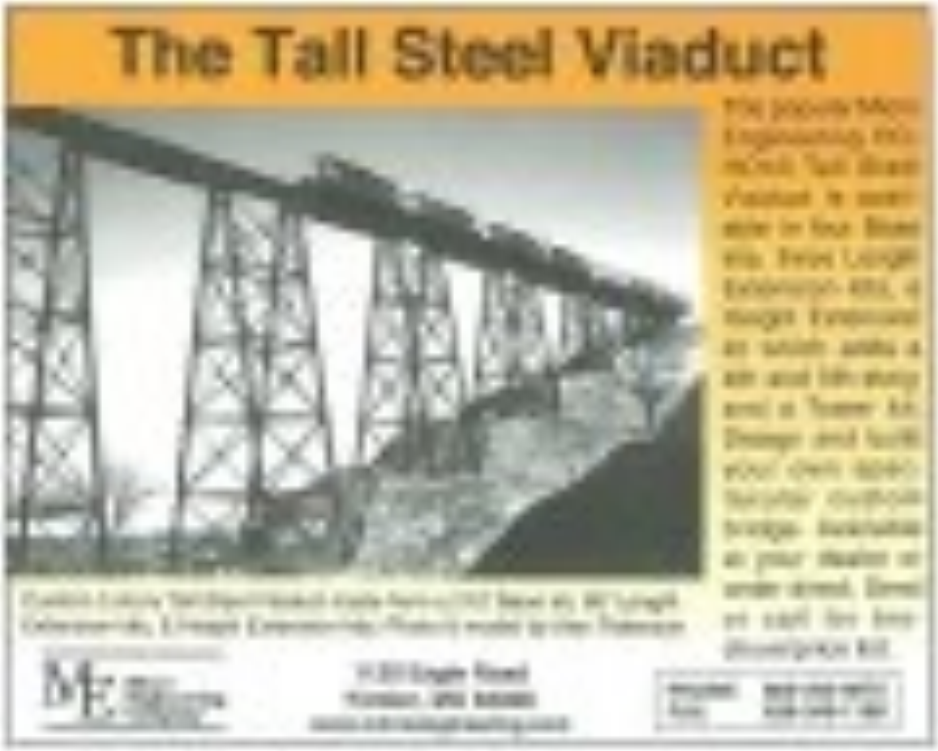
While going through past issues looking for this month's column, I came across an article by Gregg and Angel Reynolds (as above here they said this Main City hobby shop idea on their layout in Philadelphia area. It appeared in a recent issue of the Philadelphia Dispatcher put out by the Philadelphia Division of the Mid-Eastern Region. So rumors is picks up where Ken's article leaves off with lots of detailed information and useful photos.

But in order to get this issue on page of this column, you should really read Ken's article as well, so here's what we're going to do. If you're not a Members Only website and club on the NMRA (pick it up after logging in, you'll find not only Gregg and Angel's article but Ken Clark's original article as well. And if you'd like to see how well the downtown building scenes works in person, sign up for Grand Rails 2012, the NMRA National Convention that runs June 10 to 16 in Grand Rapids, Michigan. The Grand Rapids will be running a layout tour to the western Detroit suburbs, and be the additional attraction. And layout city layout and see where will be on their way. Some of these are downtown buildings now. To find out more about the most incredible article about it in the September 2011 issue of the NMRA magazine. And while we're more about the convention, read on.

Something's Missing!

Have you been looking for the registration package for the National Convention that usually appears each year in the February issue? Well stop looking. It's not here. That's because convention registration will be handled a little differently this year. Instead of publishing the package here, you'll find it online instead at www.gr2012.org. Don't have access to a computer? No problem. You can always contact your nearest service. But use the simpler method for you. Go to the Grand Rapids 2012 Convention website at the above. By doing it this way the NMRA saves printing costs and valuable time. It also that you can be just as late for other good purposes. By the way, www.gr2012.org is also the place to go for all the other convention information you'll need to know.

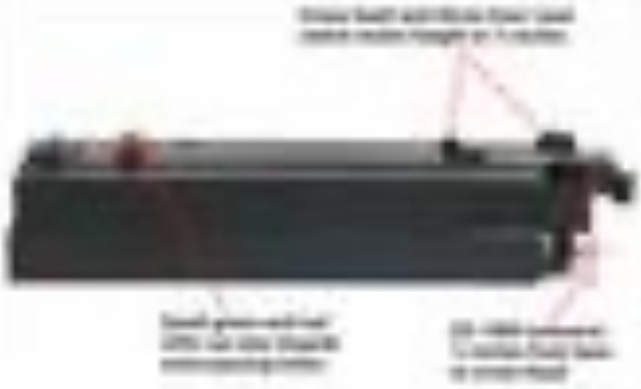
And speaking of going, if you're not as in the June issue, but you look here in two months, for more happenings from the NMRA and Grand Rapids and probably some layout tours as well.



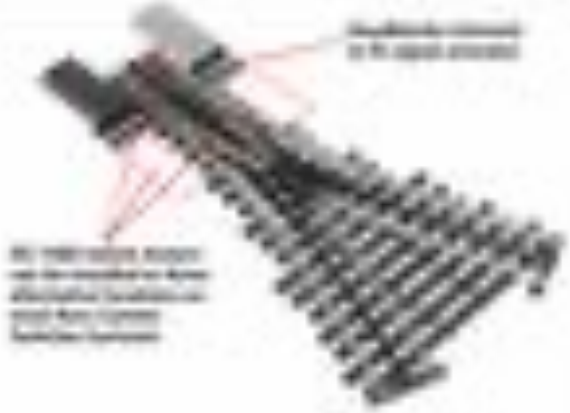
Trouble at the turnout

TIPS FOR TROUBLESHOOTING A PESKY PROBLEM RAISED BY A SIMPLE SWITCH MOTOR

Something had to be done! The turn was a classic as has a weight source and/or upgrade are formed very regularly on the line. Except two weeks's prep one along the path on a Bona 3 course Switches Products it was much more now. Boy, was we baffled the reality I found no use 14 gauge Seven. After a few crossing formats, no panel crossed in a series unassuable. And just allowed out in time through three volunteers, some of which involved a sledgehammer.



DIY with the hand. Initially, I appeared that a tiny screw stuck on the 3 mm the frame to mull non my 00 1968 switch motor stopped me blowing turned no. 00031 there one. Hybrid accessories dead to my mind, I removed the original motor mounting screw and installed a suitable flathead replacement, 3 mm, 4 x 1 mm short wheel screw in the new instrumentally. I found that the plate on the locomotive still clipped the motor base so the motor housing. Insert a few more a notch here and try another lack.



Black the motor. In most cases, turnouts from Bona Custom Essentials motorised conversion feature motorised height and headblocks, allowing you to swap the motor installed on either side of the rail. Trouble was, I'd already trimmed off the headblock on the opposite side to accommodate the screw for an ARP no. 30-1048 modern diesel signal. Turkish again I had us few. As Peter Riddle also fitted in the July 2010 Classic Top Trains feature, there was still an option for mounting the motor underneath the baseboard.

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Update an older Digital Command Control system

Just because your Digital Command Control components are old doesn't mean they're obsolete. Mike Polegreen explains how to replace plastic-headed plug owners and perform other upgrades in this month's solution. Photography by the author

Where you purchased your Digital Command Control (DCC) system (via an 'onsite' club event, brainwave, post-Xmas bargain, or whatever) may have changed over the years. Big names such as Hornby and Bachmann have come and gone, and even the DCC standards have changed. Some of the early DCC systems are now quite old, and may not be compatible with the latest locomotive decoders.

Fortunately, most DCC systems can be updated in some way, and this month I'm going to look at how to update an older system to make it more compatible with modern locomotives. I'll also look at how to replace the plastic-headed plug that connects the track to the DCC system, which is a common problem with older systems.

Does it need doing? Before you start, it's worth considering whether you actually need to update your system. If you're happy with the way it works, and you're not having any problems with your locomotives, then there's no reason to change anything. However, if you're having problems with locomotives not responding correctly, or if you're unable to program the decoders in your locomotives, then it's probably time to consider an update.

Another reason to update your system is if you want to add new features, such as sound effects or lighting. Older systems may not have the capacity to control these features, or may require additional hardware to be added.

Which system? Before you start, you'll need to identify which DCC system you have. This is usually printed on the front or back of the command station, and may also be displayed on the screen when you turn the system on. Once you know which system you have, you can look up its specifications and see what upgrades are available.

Some DCC systems can be updated by simply downloading new firmware from the manufacturer's website and installing it on the command station. This is usually the easiest and most straightforward way to update your system, and it's worth checking the manufacturer's website to see if this is an option for your system.

If your system can't be updated in this way, you may need to purchase a new command station or other hardware to add the features you want. In some cases, it may be more cost-effective to upgrade to a newer system altogether, rather than trying to add new features to an older one.

Before you start any upgrade, it's important to make sure you have a backup of your current system. This will allow you to restore your system to its previous state if anything goes wrong during the upgrade process. Most DCC systems have a way to save and load configuration files, which can be used to create a backup.

Check compatibility Before you start, it's important to check that the new components you're adding are compatible with your existing system. This includes checking that the new command station or other hardware is compatible with your locomotives and any other components you're using, such as track or accessories.

Update the firmware Once you've backed up your system and checked compatibility, you can start updating the firmware. This is usually done by connecting your computer to the command station using a USB cable, and then using software provided by the manufacturer to download the new firmware to the command station.

Add new features Once the firmware has been updated, you can start adding new features to your system. This may involve connecting additional hardware, such as sound modules or lighting controllers, and configuring the command station to control them.

Test and troubleshoot After you've added new features, it's important to test your system thoroughly to make sure everything is working correctly. This may involve running locomotives on the track and checking that they respond correctly to commands from the command station.

If you're having problems with your system, there are a number of troubleshooting steps you can take. These include checking for loose connections, verifying that your power supply is adequate, and checking for interference from other electronic devices.

Keep it clean Regular cleaning of your track and locomotives is important for maintaining reliable operation. Dirt and debris can cause poor electrical contact, which can lead to problems with locomotives not responding correctly or losing power.

Upgrade the decoders If you're having problems with locomotives not responding correctly, it may be worth upgrading the decoders in those locomotives. Newer decoders may have more features and better performance than older ones, and can be a cost-effective way to improve the reliability of your system.

Consider a new system If your system is very old or is no longer supported by the manufacturer, it may be worth considering purchasing a new system altogether. Modern DCC systems have a wide range of features and capabilities, and can offer significant improvements over older systems.

Join a club If you're new to DCC or are having problems with your system, it can be helpful to join a local model railway club. Clubs can provide a wealth of information and support, and may also have experienced members who can help you troubleshoot problems or upgrade your system.

Read the manual Finally, it's important to read the manual that comes with your DCC system. This will provide detailed information on how to set up and use the system, as well as troubleshooting tips and other useful information.

Conclusion Updating an older DCC system can be a cost-effective way to add new features and improve reliability. By following the steps outlined above, you can ensure that your system is up to date and working correctly, and that you're getting the most out of your model railway.

Mike replaced the DH6 version of the dual in-line package (DIP) in his NCE Loop Digital Command Control throttle with one from 2007. The DIP was easily removed with a small screwdriver, but work carefully to avoid bending the pins.

upgrades w/ its 1724 throttle to the 1768 (called a "1768") plugfire replace. Likewise, one can update Digitrax's DH4xx throttle to a DH4xS (Xtreme) (although the old plugfire replace. Since the DH4xS currently is updated to a DH4xC, one can add future firmware updates. The newer (standard) DH4xS fits into the newer Digitrax's remote and connect your cab bus transmit as a complete swing-a-way panel retrofit.

Long-time a shelter upgrade. As LH4xx and LH5xx transmitters can be upgraded to 1724 by either changing the PROM swap with or sending it to Loco Tools, you'll be able to upgrade the LH2xxH command station or an LT-1724 by sending it to Loco Tools the system has an LT-1768, the unit can do further upgrades. Some upgrades provide additional features such as bi-directional communication.

NCE offers several factory upgrades for its 9 V wireless throttles and receivers so 1) old of the wireless components more for the users involved to avoid uncertainty together.

You can update NCE wireless throttles for improved performance by sending them in to the manufacturer to get the Generation 4 Radio upgrade. This throttle firmware or upgrade. Now's customized version has been available for many years.

In addition to throttles and user-mod stations, decoders can be upgraded. Many times this can be done while the decoder is still in the locomotive, but it often requires a specialized programmer. These programmers can also be used for altering configuration variables in the decoder.

Digitrax's SoundSTS decoders are an example of such a decoder. By use of either the DB1 or DB2 computer interface, one can download new sounds and update the decoder's firmware.

The Loco Digital Plan Decoder Programmer for you upgrade your Loco decoders if they are already at least the latest 7" Anniversary.

Many decoder sounds equipped from someone can QSI Industries decoders, QSI Industries, a company that offers after-market QSI products for upgrade. Also the QSI decoders need to match. Based our Locomotive Maintenance, Lesson 10-1 and Power 2008 Accessories. Once the chips are updated to the latest 7 further upgrades can be accomplished with the Quantum Programmer.

Those decoders can be upgraded with the NCE NCS-CV1 module. NCE NCS-CV1 or the NCE NCS-connected motors.

By upgrading your DCC components you can take advantage of advanced features not offered when your system was designed and correct long-time known bugs and those other way purchased your current. For many years, replacement PROMs have been available, but newer and more downloadable firmware and programmers are becoming available. This protects your investment in DCC equipment from becoming obsolete. (CS)

Research & Test Car

Transcription (Nabisco & Erie) #2000
Mileage, Standards & Maintenance Department

Table 1: Performance and Inspection Summary

STANDARDS required for Certification	AP Range 2 axes
3-D Clearance	Pass
6-A Offsets	Pass
3-T Overhang	Pass
6-A Clearance	N/A
RECOMMENDED PRACTICES (not required for certification)	
RP-20-1 Car Weight	N/A
RP-20 Bolsters	N/A
RP-20 Journals and Axles	N/A

Micro-Trains adds 51 Hoppers and Gunnar Cupola Caboose 2 Scales

by Larry Hoover

This product received a Conformance Warrant

This month at Brake-o-Rak at some very small but savvy, detailed, N scale models from Micro-Trains. If you've never paid much attention to N scale, you owe it to yourself to at least closely examine a piece of rolling stock or a locomotive. Guaranteed, you'll find new detailing and fine-tuning that you never imagined could exist in a scale this small. It wasn't very many years ago that our HO rolling stock didn't look as good as today's N products. Take a look at some N models this month and you'll see why we've invited hobby shop and on-layout

The first Micro-Trains product we'll examine is the 40-foot ribbed-side hopper painted in Chesapeake & Ohio livery. The Micro-Trains model represents Pullman-Standard (PS-1 design, which was first produced in 1947. While the PS-1 cars have been retired after the AAR design, Pullman-Standard designed cars are still in use. The majority of the PS-1 hoppers in railroad service have been rebuilt with new sides, but some cars are still unmodified. The original PS-1s could be equipped with either Youngstown doors or Hydrotite doors or even panel doors. After 1956, Pullman-Standard offered a choice of its own design.

The Micro-Trains model features operational doors and a load with just a touch of weathering. The C&O's passenger fast freight service Micro-Trains model was part of a 1,000-car order. This particular car was built in June 1963, in 1964, it was repainted in the black livery which indicates it was built in

specifications as specially equipped inside. The C&O PS-1 cars are fitted with lateral bracing and hopper seam reinforcements. In addition to C&O, Micro-Trains also offers the PS-1 in a host of other roads. You can also order Micro-Trains without at conventional wheels and A-K couplers "Brass Line" cab under the "Others" tab. Die MRP is $16.95.

Our new model is number 60 date but can be the Postal Steel Car Company of Pittsburgh, Pennsylvania, made electric to

CONFORMS TO NMRA STANDARDS

Issued Conformance Warrant 2011-0001a

1930. There were the three all steel boxcars owned by Rio Grande and were the first to have the Rio Grande spruce livery. These cars were restored boxcars having work that began when D&RGW re-purposed the products we now consider as those the first few of 400 cars purchased by D&RGW and converted into four "boxgrooves" during 1971

Extended-height ends, wood running boards and 14-panel riveted sides. The Micro-Trains model captures the overall look of the D&RGW but has only one side panel, an open one featuring boxed and incorrect rivet heads. In Z scale, however, these inconsistencies are only noticeable if you're really looking very closely. Once again, check the Micro-Trains website for all the details of this. The AAR of the D&RGW boxcar is 832.20.

The final Z scale offering we'll review this month is Micro-Trains' newest expedite cabooses for the Canadian National railway.

Hooker Sidelely to Toronto. Nova Scotia built the prototype for this caboose in 1967. A total of 75 prototype photos of caboose 79268 (only five members were those our private model) can be found at: http://www.railpictures.net/gallery/2/main.php?g2_itemId=18996. A side view drawing appears at: http://montrain.com/drawings/n/boxbrough.jpg. As a bobber, rather 2 months, this detailing is excellent. The smoke stacks, brake wheels, and end/roof ladders are separately applied. Other details, such as the grab irons and roof walks, are molded-on. The prototype photos and draw-

Table 1: Conformance and Inspection Summary

[illegible] Carrier reports clearances [illegible]	[illegible]
[illegible]	Pass
[illegible]	Pass
[illegible]	Pass
[illegible]	N/A
[illegible]	
[illegible]	N/A
[illegible]	N/A
[illegible]	N/A

[illegible] Conformance Warrant M-X 1.0 and the caboose received Conformance Warrant [illegible]

ing show two major body modifications over the prototype as the other reduces detailed window on each side of the cupola. Two marker stacks are also shown to back the photo-worthy drawing. Six roof-fit-in-view windows on each side, two gas-tin cupola windows and one smoke stack. Overall the model captures the feeling of the CN caboose. The MMR has [illegible] signals [illegible]

All three models were inspected for compliance with the applicable MMR Standards and Recommended Practices. The boxcars received MMR-4

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Bachmann Class 57 with DCC sound

Return of the body snatcher! **Nigel Burkin** reviews the Bachmann Class 57, now with digital sound

New chassis for A4 and B1

Tony Wright examines the Bachmann A4 'Pacific' and B1 4-6-0, now fitted with brand new replacement chassis

The new chassis is a significant improvement over the old one, as this comparison with a B1 shows

Still there

The overall dimensions of the new chassis are identical to the old one, so it is a straightforward swap. Unfortunately, the new chassis is not compatible with the old body, so if you have a model with the old chassis and want to upgrade, you will also need a new body. Bachmann has announced that it will be producing new bodies for the A4 and B1 in the future, but there is no indication as to when they will be available.

The new chassis is fitted with the same Bachmann 'Skew Wound' motor as the old one, and the drive is transmitted to the wheels via a worm gear and a single spur gear on the driving axle. Unfortunately, no provision has been made for the fitting of a flywheel, which would have helped to smooth out the motor's jerky running at slow speeds. The motor is fed via the wheels on the driving axle, which are insulated from the rest of the chassis.

Pick-up is via wheels on the driving axle and the trailing axle on the tender. Unfortunately, no provision has been made for the fitting of extra pick-up wheels on the locomotive, which would have helped to improve the reliability of the model.

Improved detail

The new chassis is a significant improvement over the old one, as this comparison with a B1 shows. The new chassis has much more detail, including separate brake hangers and brake shoes, and the cylinders are now separate castings, rather than being moulded integrally with the chassis. The new chassis also has a more realistic representation of the valve gear, although it is still not fully functional.

The new chassis is also fitted with a more realistic representation of the sandboxes, which are now separate castings, rather than being moulded integrally with the chassis. The new chassis also has a more realistic representation of the valve gear, although it is still not fully functional.

Conclusion

The new chassis is a significant improvement over the old one, and it is a shame that Bachmann has not made it available as a separate item. It would be a relatively simple matter to fit the new chassis to the old body, and it would make a significant difference to the appearance of the model.

Caption text for the image above.

Heading

Body text.

Heading

Body text.

Caption text for the image above.

Modelzone Longmoor Military Railway shunter

Bachmann's Western ROD

Rob Kinsey looks at the Great Western version of the World War I stalwart

The Great Western was the last of the Big Four railway companies to adopt the 2-8-0 wheel arrangement for its freight locomotives. Its first example, the 28xx class, was introduced in 1903 and was followed by the 2800 class in 1919. Both were designed by Churchward's successor, Charles Collett, and were built at Swindon Works.

Collett's 2800 class was a development of the 28xx, with a longer boiler and a higher pressure. Both classes were fitted with Belpaire fireboxes and Collett's standard 4,000-gallon tenders. The 2800s were built in batches between 1919 and 1938, with a total of 84 locomotives being constructed.

Bachmann's model of the 2800 class is based on the 1938 batch, which were fitted with Collett's standard cab and had a 3,500-gallon tender. The model is available in GWR green with late crest livery and in BR black with early emblem livery. Both versions are fitted with a DCC chip as standard.

The model

The model is available in five versions: 2800 in GWR green with late crest livery; 2800 in GWR green with early crest livery; 2800 in BR black with early emblem livery; 2800 in BR black with late crest livery; and 2800 in WD khaki. Each version is available with a choice of DCC chip or DC only. The model is also available with a choice of Collett 3,500-gallon tender or Hawksworth 4,000-gallon tender.

The model is finished to a high standard and has a good level of detail. The cab interior is well modelled and the crew figures are nicely painted. The model has a metal chassis and body and is fitted with a DCC chip as standard. The model is also fitted with a smoke unit and a sound system.

The model is fitted with a DCC chip as standard. The model is also fitted with a smoke unit and a sound system. The model is also

Bachmann A1 with DCC sound

With a prestige on the railway network it wasn't going to be long before a 'sound' item appeared! **Gilbert Barnett** investigates. *Photography Ray Wright*

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Trainz 12 features new routes and online options

Have you wondered what it would be like to control some of the world's most famous trains? Trainz Simulator 12 lets you design and build your own virtual railroad, complete with a variety of built-in and user-added trains.

Virtual model railroad. From day one, Trainz lets you choose routes and specific runs and locomotives. The scenery you have complete control over, letting you move trees or add and delete a town or a group.

The game features DLC packs, which is like running a model train on your computer, and Cab packs, which is a more complex piece and realistic simulation. In such mode you change over the engine and control the lights or when the fire must be lit (and spend on the game will eat if you record speed limits).

I especially enjoyed playing the Australia or Western and the Northeast Corridor routes. The NEW Middle was a real treat to run on the Appalachian Coal Mountains. The regular Australia like the passenger T4 were my trains and control long the engine is a fairly ergonomic the dense of us who have some trains on the call of a steam locomotive.

The Northeast Corridor features passenger operations on mainline a high-speed Acela trains. The sleek locomotives and cars are well-rendered.

Other routes include the Mojave Subdivision and generic routes and train-in cabs. Prestige routes include Redcrest to Mount Rhomby, Debercourt to Wyvegan Heights (Glengarry Coal Mines Line), King's Cross to Portsmouth (3 steam & diesel, and Heathrow Express).

Surprise: Most allows players to create their own routes. It's easier to use than in the previously released Trainz 2009. There are more options and editing controls. The multiplayer options allows players to run around the world or run over more environments via the internet.

Brilliance versions. The PC that I run all the game on demands the game's hard drive requirements. Trainz 12 loaded on my computer had my previously created Trainz 2009 routes no longer functioned. I would have preferred that the new game was backwards compatible.

A version of Trainz 12 is available for Apple Mac/Intel computers. A mobile version is also available for Apple iPad and Android-based mobile devices. These products are sold separately. For more information, see trainz.com.

I enjoyed Trainz 12, and with the mobile version I could have a virtual model railroad in my pocket.

—Eric Arnold with E.R.

Trainz 12 computer game

Price: $49.99
Manufacturer:
Auran/N3V Games
P.O. Box 604
Helensvale QLD 4212
Australia
trainz.com
Minimum requirements:
Windows Vista/Windows 7 (64-bit operating system), Core 2 Duo (or equivalent processor), 2GB RAM, nVidia GeForce 8800 (or equivalent graphics card), 16GB hard drive space, Internet link at competitive speed (cont.)

SO UGLY IT'S
GORGEOUS!

Coming to HO scale in 2013 from Rapido Trains Inc.
More information: youtube.com/rapidotrains

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Capital idea in Kansas

Union Pacific, BNSF Railway and Amtrak converge along the river in Topeka

Union Pacific C44AC No. 7210 heads east past the UP yard and through its downtown with eastbound coal trains from the Powder River Basin on Aug. 30, 2020.

CITY is a stretch miles east of Kansas City along the Kansas River. Topeka, Kan., is a city whose story is intertwined with railroads. Incorporated in 1857, its first mayor was none other than Abraham Topeka (a name in Iowan Cherokee) Hollenberg.

TRAIN WATCHING Just Kansas and Union Pacific trains opposite bottom of the Kansas River from Kansas City to Topeka, along two north-south, three-track Pacific lines from the west and together at Topeka forming a high-traffic, double-track main line to Kansas City. On the northwest bank at Topeka, the Santa Fe (UP) and Union Pacific (BNSF) run through the Kansas Side from Wamego to Meriden Junction. Continuing east from Meriden is UP's high-capacity joint line with Norfolk Southern, and will grow in activity as Heritage Corridor of the Kansas City Southern. At the west end of the yard is an overhead switch to access the surface track that from Wamego to Topeka (UP's Topeka Sub) Kansas City the Kansas Side, and east of its junction on the BNSF main Wamego, a short remnant of the Santa Fe's Meriden line. Following the north side of the river, BNSF's Topeka Sub begins west of Kansas City at Holliday Junction, runs through Lawrence and Topeka, and then turns south to run past the Santa Fe shops near 45th and Kansas Avenue. The Kansas River is on separate tracks and tracks south, and Amtrak's Southwest Chief. The Topeka Sub often crosses on the Kansas's third main track to take away traffic to allow for train work or problems. Train movement along the Topeka Sub is within close by track warrant, on a radio line passing detailed train. Topeka is also home to the railroad's business car fleet and a large BNSF car repair, on-location work of the Atchison, Topeka and Santa Fe Railway Historical Society. You may catch one of the Chief's stops at 11:15 a.m., and the next bound Chief rolls at 11:30 p.m. Or in search of the Kansas Side, watch a train as one on main, or cruise from and a coaster or local service, through the a train approached with arrival or trains from the Kansas Side. UP's Kansas City Missouri Topeka and Kansas City yard, as yesterday 40 to 60 trains in a 24-hour period. Watch other uptick at Holliday's canal in North Topeka is the of BNSF overhanging views photographs a good a side the morning and afternoon. In addition, the neighborhood is fairly quiet. there's ample parking on either side of the tracks, and police will rarely bother you here. To get there, exit I-70 take at 4th Street, go north to Kansas Avenue, and then head east to the tracks in Gunner Street. For more info on railfanning in Topeka and Kansas, go to www.railfanguide.net/us/kansas/topeka/.

RAILROAD FREQUENCIES BNSF 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139,

For NRHS, it's north to Alaska in 2013

The National Railway Historical Society's 2013 convention will take place in September in Anchorage, Alaska. The event will also include pre-convention activities in Fairbanks, Alaska, and charter trains on the Alaska Railroad. For details and dates, write [illegible].

Union Pacific has issued a photo policy, and is asking photographers to stay off the property after a shooter and a video camera helped the rally at Jim Hennig's 4-8-4 No. 844. To see UP's policy, go to www.up.com/cs/bnsf/photo-video.shtml. [illegible]

The National Railway Museum in York, England, will host Railfest 2012, a celebration of Britain's railways. The nine-day event will take place June 8-16. More than 30 operating steam locomotives will be gathered for the event, which will offer the opportunity to visit locomotive cabs and ride behind several steam engines. There will also be a trade show and family activities during the celebration. Among those in steam will be the Mallard, above, a London & South Eastern Railway A4 class 4-6-2, and the famous 4-6-2 Flying Scotsman. Read more [illegible]

PRODUCTS

Long Island Rail Road: Volume 1 - The East End

Arcadia Publishing, 2012. Paperback. 96p. Softcover. 9in. (W) 6in. (H) 0.2in. (D). ISBN: [illegible]. www.ArcadiaPublishing.com. www.LIRRHistory.com. 130 images. $19.99.

This video is a retrospective of the Long Island Rail Road, showcasing vintage equipment that was retired as late as the mid-1990s. Also interviews with [illegible] and a number of scenes that have been lost to time. Overall, a nice look at the LIRR.

The video is organized by line, with views of trains entering and leaving each station over the years. A retrospective look at older station structures and grade crossings, all of which have changed.

The quality of the photography mostly shows the equipment when the light is at its best, but the scenes during light conditions [illegible]. Philadelphia, a high-quality and interesting collection of the collection of [illegible]. Also [illegible] to Pole to [illegible] locomotives. The best [illegible] of this video [illegible] — Joseph W. Calfo

All Eight Rail Lines

Arcadia Publishing, 2012. Paperback. 96p. Softcover. 9in. (W) 6in. (H) 0.2in. (D). ISBN: [illegible]. www.ArcadiaPublishing.com. www.[illegible].com. 2 photographs. 3 maps. $19.99.

[illegible] and is a comprehensive photographic [illegible] the pre-Penn Central era. [illegible] Railroad, Erie Railroad, Lehigh Valley Railroad, Central Railroad of New Jersey, Reading Company, Jersey Central Lines, Pennsylvania Railroad, and New York Central. The [illegible] are arranged [illegible] and [illegible] to the [illegible] and [illegible] to the [illegible] and [illegible] to the

BY KEN KATTENBE

Beebe and Clegg's car rolls on

The famous railroad authors' private car still prowls the rails 46 years after Beebe's death

"There's nothing like hooking one of these on a private railway car with good friends," wrote Lucius Beebe and photographer and friend Richard Weatherwax in his book "Wheels Across the Land." The private car pictured was the Virginia City, the car that belonged to Beebe's colorful partner Charles Clegg and Beebe's wife.

The Virginia City was Beebe and Clegg's second private car. The first was the ornate Central of Georgia wooden car that was (until recently and always at the web-wrenched car could be found in the books. After Beebe's death in 1966, Clegg kept the car, parking it at locations from Reno to Virginia City, San Francisco.

Built as 1400 by Pullman-Standard, the car had an open platform, observation lounge and sleeping accommodations for 10. It was assigned to one of Beebe's favorite trains, the Chicago Chief, and Pullman crafted it with Pullman-style comfort and economy in mind. Beebe, assigning it to the Virginia City, called it "an ideal vehicle for assignment trips on those numerous Virginia Airlines."

Beebe and Clegg purchased the car in 1950 for $5,000. Each stripped it of Pullman fixtures designed for excess baggage. The car's interior included an observation lounge, bedrooms, a private space for the dining room, and a kitchen. Beebe and Clegg hired the long-time Grand Central Station chef, Tyrone Wade, to cook and serve on the car. Clegg called it "Victorian Renaissance Baroque" style. Beebe purchased approximately $77,000 in antique furnishings to complete the interiors, including a marble fireplace, Italian bronze and handmade glass chandeliers.

When Lucius Beebe and Charles Clegg purchased the car from Clegg's estate in August 1966, it was awaiting historical restoration and later repairs, and would be from the cradle-like existence they provided to July 1966. Wade and his crew refurbished the car with its current Victorian gold Cleveland Brass fixtures, then coupled up to the Lucius Beebe in Reno with Virginia City at the Nevada Historical Association in Virginia City.

Since leaving the car, Pullman has its trucks replaced, trucks and running gear to keep up with Amtrak standards.

Each vestibule included replacing damaged sections of the hood and a new set of bedroom suites with new bedding.

Private car Virginia City lays over in Sparks, Nev., after a trip across the Sierras from Emeryville, Calif., upper left; winter rains coming, upper right; owner Wade Pullman on the back platform of the 1400 car.

The car's interior was completely refurbished in 1966 by Wade Pullman, who had worked for Beebe and Clegg. Pullman also replaced the mechanical air conditioning system with an updated unit. The car also received a new generator and a 117-gallon fuel tank, giving the Virginia City 1,200 hours of self-contained power. Finally, a 40-gallon fresh water tank was installed to increase the car's range between water stops.

While not accessible for long stretches, the interior of the car still reflects the Victorian tastes of the Beebe-Clegg years. "The Virginia City is a delight filled with antiques," Pullman says. All furnishings in the car are original to when the car was purchased. While the bed remains, Virginia City's interior needed a good cleaning, although the furniture and carpets were well kept. Only the wood Pullman has reupholstered the furnishings and restored the carpeting.

Antiques appear everywhere in the car. The dining room features an Autoharp (worth about $1,000 each), and in the lounge, the ornate hanging above the fireplace dates to the late 19th century. Fireplaces are the fireplace mantle as a side-side of the car.

While plans would portray, the Chippendale hanging on the dining room and lounge were hand-crafted by the Victorian. Silver works in honor, style, and the working desk was custom-made for the car.

And to where are the car on the days of the California Gold Rush, during Prohibition, and traveling on Amtrak. Here, the spirits and stories of on the Lucius Beebe's operating along the tracks.

KEN KATTENBE is a media consultant and train designer from Alexandria, Va. He has written about the private cars and train cars since 1960. She is the current train on Tuesday.

Milwaukee Road 4-8-4 No. 261 gets its legs back

Mike Jelonek

Mike Jelonek

California short line, 2-8-2 up for sale

Mike Jelonek

ASK TRAINS

>> This Month:
- Superelevated curves
- Amtrak's New York line
- Canadian National's SD60Fs

Union Pacific No. 5234 navigates a 3½-inch superelevated curve at Lolopaid, Ill., on BNSF's Kansas Subdivision in Kingsman, Wash., on Nov. 25, 2008. DAVID LASSEN

Q Can you describe what "superelevated curves" are and how they are constructed? — Jeff Gill, Wilmington, N.C.

A Both railroad and roadway engineers use superelevation (or cant) to offset the centrifugal force that occurs when a vehicle travels through a curve. This is accomplished by raising the plane of the running surface. A function of railroad standard for a track centered between the design velocity is to zero and can thus avoid running while operating at the highest allowable speed, based upon local conditions. Superelevation is implemented by raising the outside rail (with respect to the inside rail) making the car lean toward the inside of the curve. This shifts the car's center of gravity closer to the inside rail and brings the resultant force of its weight in equilibrium over the rail. To accomplish this, crews add additional ballast under the low, raising the high rail and bringing the low rail up to design grade. The superelevation is applied over track on the tangent track through the spiral connected to a curve and usually one inch of lift per 62 feet of track length over the designed full elevation is reached in the curve.

A: Wood cant board
B: Cant board brace
C: Bracket brace
D: Bracket brace
E: Bracket brace

The amount of superelevation required for a particular degree of curve and design speed for trains is expressed as the number of inches the outer rail is raised above the inner rail. However, the full theoretical superelevation is rarely applied, organized that the equilibrium state is not necessary the comfortable ride quality for passenger trains and the practical matter that we all know, especially freight trains, will operate at speeds varying from the design speed. Railroads incorporate a limited amount of unbalance called known as cant deficiency (measured as the difference between the actual and theoretical superelevation).

The American Railway Engineering and Maintenance-of-Way Association's "Manual for Railway Engineering" states that track should not have freight and passenger trains are limited to a cant deficiency of certain superelevation. Under this scenario (example), authorities to operate the governing curves allowing passengers allowable speed. For 100 mi/h, freight trains are limited to 3 inch or unbalanced passenger equipment to 4 inches, and tilt equipment to 9 inches. — Richard Dilenze, assistant engineer and chief NCRR Engineering Inc.

Q In April 2011, I was riding the old Delaware, Lackawanna & Western line that ran from Binghamton, N.Y., to Utica, N.Y. The line appears to have been rehabilitated and then abandoned. Why were the ties even and what are the plans for it? — Michael Humphreys, Barnesville, Ohio

Despite the condition of the tracks and station at Oxford, N.Y., this line hasn't been abandoned. MICHAEL STRAUSS

A The rail line you followed was acquired by and most recently operated on the New York, Susquehanna & Western Railway as the Utica-Binghamton subdivision.

Q **Recently our Canadian National freight stopped for 3½ switching a car of cars in Cedar Rapids, Iowa, and was unable to determine who sent the locomotive. It had six axles and no new ring inserts on the axles. Are the inserts behind the cab standard fare? Can you shed some light on the engine?**

— Tommy Tuberville, Cleveland, Ohio

A [illegible] a view of the complete engine [illegible] locomotive built by General Motors Diesel in London, Ont.

CN GMD1s were rare 1951 to 1954 locomotives in Montreal Work, Burlington, Ont., on May 1, 2009. [illegible]

CN 1500 GMD1s are the only six-axle locomotives built, although they are externally identical to 4-axle CN HOOSIER predecessors. [illegible] CN owned the GMD1s several years ago most have been scrapped, although a handful were sold to railway historical societies. Montreal's Canadian Railway Museum operates CN No. 1502, a non-operable exhibit in a museum in Delson, Quebec.

On the exterior, the cathode design features a position of CN locomotives, and the look of which is the North American cab. CN developed this new function cab design in cooperation with Montreal Locomotive Works and General Motors. Most of the early 1950s, and two were sold to an art auction foundation purchased when [illegible] Montreal, 1960 and 1961. CN spent [illegible] cathode designs to streamline how to as often as possible better working conditions for train crews and maximize [illegible] engineer another.

Early cathode models included fourteen plus GMD1s and CN GMD1 4-44. The 44 [illegible] to the recommendation of CN and GMD locomotives. The left [illegible] an [illegible] design of similar to GMD1 [illegible] 1951 models, that incorporate another CN conventions, the "Dragon nose" [illegible] the cab. To designers, the nose is an [illegible] of the cathode incident and to keep the cab in [illegible] better visibility in the rear. — Greg Hajtmanek

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CODE: [illegible]

▲ A two-year-old Esphombo Mirror Trade Masonry Log a traffic bottom across the Kennagh (new) bridge while an Alice 911 11 hand-sign Kennagh Mark Dyno-Lighter on Arthur Zimmerich (40) reads Common Comfort DA. The railroad tenders the Smithboro Pacific as a fundamental Pure England bike writing. Arthur, Iowa Central, Main, visitors making sentiment sunset like the soldiers at work out the bridge. The locomotives are Mr. Allen Line Iowa's Arts the photo.

▲ A two-track Blue bolts a song of ran cars over the last words on to cover from the hills of week Trace in the Montrose village of Shelltown. Jon Hall at the shell, Texas photographed for cows on the 12 to 17 June 1947— Denver. He created the waterfall from Woodland Scenic: Realistic Water and Water Effects, using felt hole tiles inverted by the flowing water. The months on Campbell kits and the tanned pumice were scratchbuilt.

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▲ Fishermen go about their daily routine while the core of [illegible] sits idle, their days for hours at the Gordon Fishes. Though the waterfront still looks much as it did in the nineteen-era, the [illegible] a dinner date or for a weekend cruise. Victory Cruiseliner of Duglas, Mo., combined a Rubbert-N-Auto Dishwasher Wheel and a Bat-Mitt Warburtown Mitt like kit to create this 17" x 22" diorama. The homebuilder is an [illegible] model. Frame size does the glass.

◀ The trees are bare on a cold late autumn November morning in Minnesota while Dalbelle, Alexander & Twin Range no. 346 crew light [illegible] Hill Line on Track 64 Kickback Mill a bit lateral. The tender a extended-base [illegible] fitted [illegible] with offset pin and bolt [illegible] switched to a rather grimder. The trees are [illegible] cabbage from a craft [illegible] Train bought at a craft store. Nancy Alvin Edna Preston, Alston, Jan and the photo.

Model Railway Exhibition

BAY MODELS

THE ENGINE WORKS

Happy New Year!

History in a Click

Opening Doodle artwork and an all-time roster of ten eight-company owned locomotives, the Alexander Railroad Company is a little known — yet quite successful — shortline railroad based in Taylorsville, North Carolina. The company began in 1946, which was just a few years after the emergence of the popular GE 44-ton switcher. Like many other industrial and shortline companies, the "Iron Dog Line" discovered that 44-tonners were a perfect fit for shortline road-switcher service. They were light enough to operate on lightly laid track, but strong enough to handle a variety of switching and loading duties. For these reasons, the 44-tonner was the locomotive of choice for railroads that for decades. Although eight GEs (nine and not yours) were built originally, 1950s and GE 44-tonner [illegible] remain today. Photos, information are available in the NMRA Online Archive. — NMRA Collection

The NMRA Online Archive

your computer's railroading at your fingertips, just a mouse click away. Our unparalleled collection has now [illegible] railroading as it really was, to guide your layout to help your modeling, to further your understanding. NMRA members can download high-resolution photos, drawings, diagrams and maps for just $5 each. Visit www.nmra.org and click on "NMRA Online Archive." There for the history begin!

Gallery

Like clockwork orange

[illegible] and the California Zephyrs meet right on time at Phillips siding, south of Sacramento, Calif., in July 1969. No. 17 trucks past No. 16 in this hole in a flash of stainless steel and reflected orange sunset fire. The photographer, aboard No. 16, gets the shot. — Photo by Mike Schafer

The city never sleeps

Metra's Milwaukee District West Line commuter train No. 2202 heads past toward Chicago Union Station on April 15, 2021. Both the city lights and the old Pennsylvania Railroad signal lights add color to the train's nighttime interior overhead as Racine Avenue in Chicago.

—Photo by Paul Anthimopoulos

He knows a good cigar like he knows his engine

In a classic pose, Engineer Al Asbury, comfortably clutches an ice-chested, on his pocket GPS No. 1710 and its cousin toward Farmington, Iowa., on the Mississippi Railroad on May 21, 2005. Workers are currently rebuilding the locomotive at this ancient Connecticut River railroad's shops, and it will return to service.

—Photo by Jon Anastasiou

Semaphore three step

Under the clear skies of a February night in 2009, a locomotive at the Heart of Steve Railroad Museum in Canton, Ohio, goes through the crank motions as it plows through the chilly evening air. — Photo by Frank Jones

Two trams dish it out

The color of paprika, two Budapest transport streetcars play a game of chicken on they pass by Dorottya Hotel Gallery in Budapest, Hungary, on May 29, 2014. — Photo by Ivan Abrosov

I spy with my little eye

[illegible] — Photo by Laura Blake

Burn notice

[illegible] — Photo by Michael S. Murray

Quitting time

It's almost quitting time at the Union Terminal diesel shop in Weirton, W.Va., as a couple of shopmen discuss the day's happenings in November 1978. A former Lehigh & Hudson River C420 builder in the background, having escaped the ravages of the bankrupt Eastern railroads to a quieter existence on the small terminal road.

— Photo by Charles Whipp

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Mid-Central Region
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Pacific Northwest Region
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MEMBERS

[illegible]

Thirty-four years ago I was a new Big [illegible] sister. All weeks all people [illegible] doctor's matter. It's fun and schools and [illegible] and cats. I'm an kind. It's very possible. I'd needed a lesson in every [illegible] but I settled on 10th grade.

I was born and raised in Cambridge [illegible], Ontario, Canada, where Canadian National and Grand River Railway (Canadian Pacific) both ran [illegible] my hometown. My mother often [illegible] was very young. I tried [illegible] were by when she picked me up to [illegible] the [illegible] of a window.

My first train ride "unaccompanied" by a [illegible] was [illegible] from [illegible] [illegible] [illegible] with Aunt Jean for a week's visit. [illegible] [illegible] [illegible]

I grew up in small towns in America. In Clarksville, Ohio, across the river from Wheeling, West Virginia, was quiet and quaint in the 1950s and it gave me pleasant memories.

I didn't discover it at the time, but a lifelong love of trains began on a Christmas Day. I was 5 or 6 years old when I was surprised with my first American Flyer train set. My excitement was unmatched as year-by-year additions showed up. Christmas 1 would anxiously wait to see what new Lionel train would bring.

As I grew, so did my trains. I hosted my own train shows, built my "colossal empire" on the floor, with the basement of our home. I spent hours with the operating, switching, and re-routing trains, while watching my mother's kids endlessly.

My interest in railroads never subsided while my life took many turns. I received my Bachelor of Business Administration at Ohio University in three of my three Oklahoma in Texas and then served with the U.S. Air Force for six years flying mostly F-102s. After the Air Force, I worked for IBM for four years as a regional account executive. Looking to join Rural Information Systems as vice president of sales. After 12 years with Rural, I made my first career change and became chief executive for Morgan Stanley Smith Barney. Headquartered in Milan, Texas, while working for Rural, and a co-host I remain today.

In 1989, 20 years after leaving school and railroad trains, found myself in a single parent raising two daughters. My daughter were back to their wonderful times with my American Flyer and my ventures with trains was re-kindled. My first home was a little space challenged, but I was able to erect a 4x8 foot table and commence an 8 track and landing layout. Lionel, and Marklin the Christkind allowed. As we moved on, we moved to a larger home, and I was able to set a permanent layout. The layout grew and I added my collection of HO

Over the next few years and as I established "my train" I developed my skills to build a quality HO railroad. During my relationship, I met Lisa Johnson. Besides being a great friend, I learned many things from Lisa, the most important being that there's more to the holiday season than trains. Lisa introduced me to the Friday "lunch bunch," a group of co-workers who went to lunch. Thanks to Lisa and the lunch bunch, after 40 years of unsuccessful attempts I was introduced to "operating" a railroad and discovered trains are not enough. I also learned more about other people willing to come to my house and operate with me.

Almost overnight I decided to switch to N scale. Although the move took more than 18 months, I rebuilt the railroad in the N scale. Operations and a Workgroup Division

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Designer Mike McCarthy

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